homecraft

JUNE, 1955

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Plans for making this Tri-Level COFFEE TABLE and RECORD PLAYER

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- FREE full size plan for wren house
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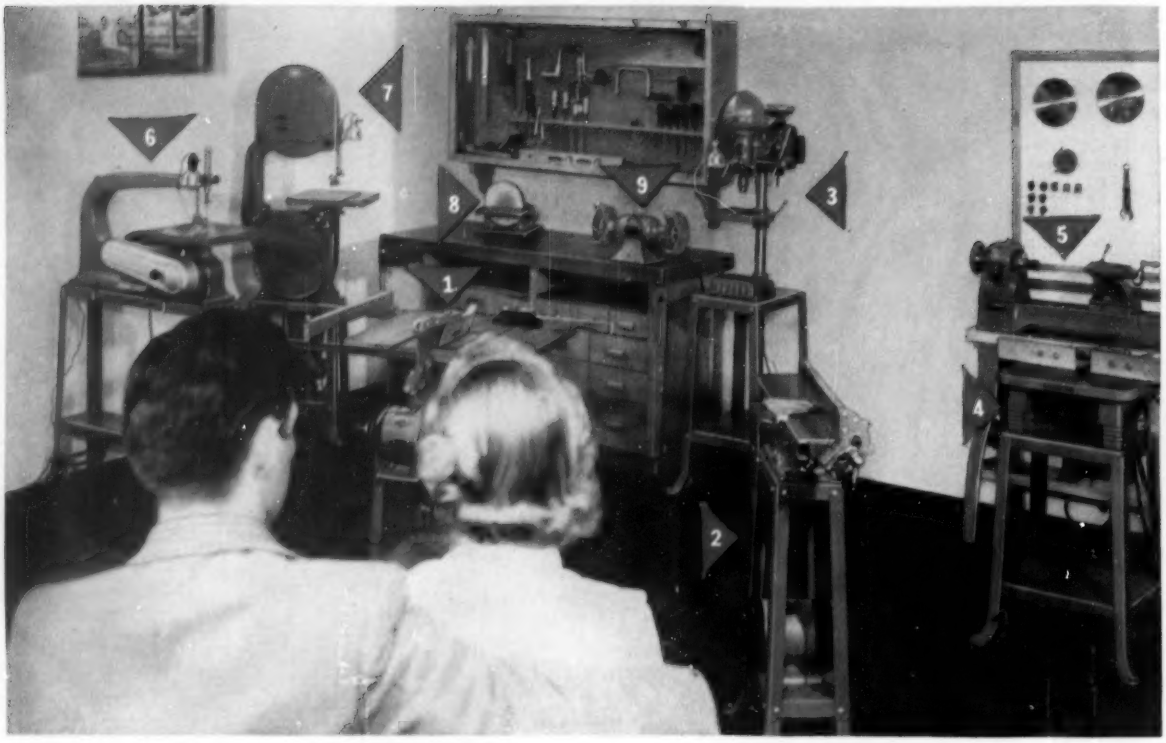

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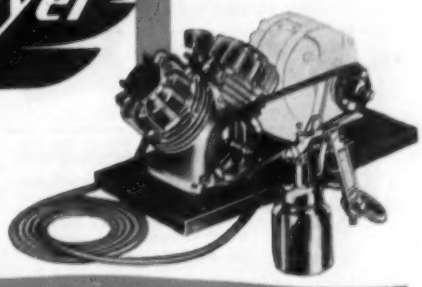

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Volume 25 No. 5
Whole No. 167

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Our 25th Year

Homecraft Magazine is a national publication for the professional, school and home workshop as well as a guide to home repair, maintenance and improvement. Application is made for transfer of Second Class Entry to the postoffice at Mount Morris, Ill. Printed in U.S.A. Copyright 1955 by General Publishing Co., Inc. All rights reserved. Subscription rates: U.S.A.—35c per copy; $2.00 a year; 2 years, $3.50; 3 years, $4.50; Canada—$2.25 a year; Foreign—50c a year extra. Requests for changes of address should include both the old and new address. The editors are always glad to receive authoritative homecraft articles from readers. Send manuscripts, photos, and drawings to Russell C. Johns, Homecraft Magazine, 154 East Erie St., Chicago 11, Ill. All articles will be acknowledged and paid upon publication, but the return of unsolicited matter cannot be guaranteed. All manuscripts and correspondence should be addressed to the executive offices at Chicago, Illinois and should include return postage.

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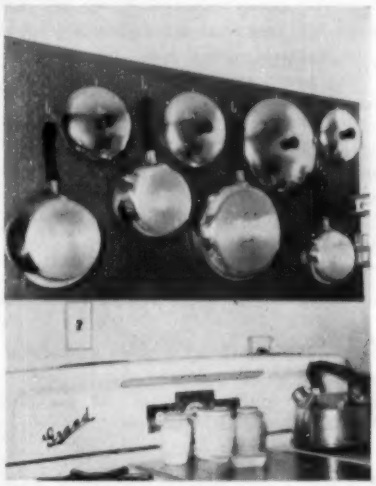
FIX IT YOURSELF

By Perry S. Graffam

Associate editor

For FUN PROFIT ECONOMY

You are invited to send your inquiries on home repair problems—interior and exterior, as well as on items used in the home. They may concern construction, heating, wiring, plumbing, painting etc., and may involve wood, metal, leather plastic, glass or any other material. All inquiries will be answered as promptly as possible, either in this column or by personal letter. Be sure to enclose addressed stamped envelope when writing to Mr. Graffam.



Right over the range where they are needed most.

KITCHEN SPACE

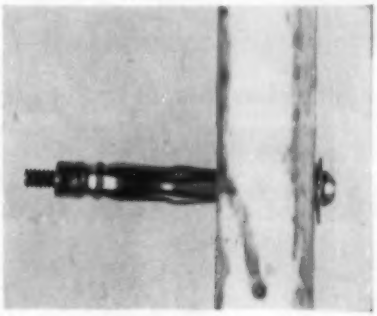
Q *How can I get more storage space in my kitchen? I have seen aluminum ware hanging on the kitchen walls, can you tell me how this is done without drilling a lot of holes in the wall?*

A Getting additional storage space in the kitchen does present a problem. The space above the stove usually is the only space left in the kitchen that is not in use. Hanging utensils on the wall can be done by using *Peg-board*. This is a hardboard material with small holes punched one inch apart all over its surface.

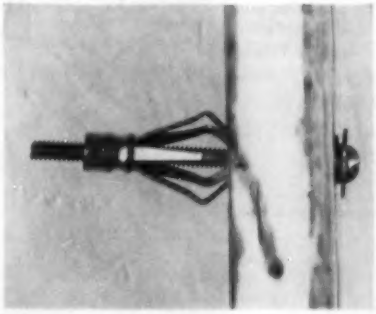
It is decorative as well as useful. Hooks and brackets of many sizes, and hardware for hanging, are available at most lumber supply dealers. It comes in 4′ x 4′ or 4′ x 8′ standard sizes and can be cut easily to any size, with a saw. It can be mounted on 1 x 2's by nailing the 1 x 2's to the wall and then fastening the *Peg-board* with ordinary screws. A better way is to use screw anchors with a ¼″ space between the board and the wall.

In no case can you fasten the board directly to the wall, as space must be left to allow the hanging hooks to be inserted. To mount the board shown in

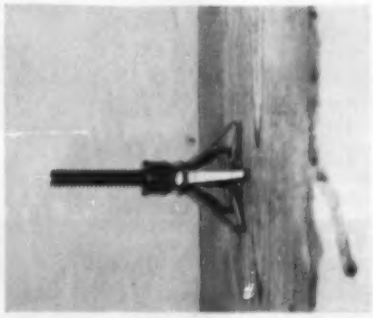
Place small piece of Scotch tape over spot before drilling.



Insert screw anchor.



Tighten screw.



Screw anchor fully compressed.

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the photo, the board was cut to size first and then placed against the wall, using the holes in the board for a template. Six marks were made for drilling locations and a 1" square of Scotch Tape was put on each mark to prevent chipping of the plaster while drilling.

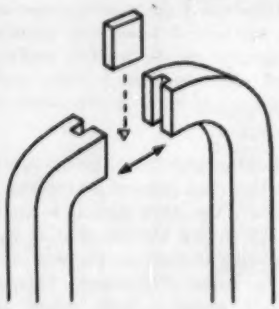
As No. 4 Molly screws anchors were to be used, a 9/32" hole was bored at the six positions. The screw anchors then were inserted and turned up tight with a screw driver, thus bringing the position of the anchor tight against the inside of the wall. The screw then was removed and the board put in place with a ¼" spacer inserted between the board and the wall, and fastened with the screws previously removed from the anchors.

The board can be left plain, as shown in the photo, or painted. It is best to plan a pattern of the different ways of hanging up the various utensils and then insert the hooks or brackets when you have decided which one works to the best advantage. The hooks are easy to change if you wish to alter the design or add more utensils to the arrangement.

WOODWORKING

Q *How can I cut a large number of wood pieces on my band saw accurately and uniformly? I plan to put the two haves together with dowels.*

A To make a large number of such pieces, they should be cut out in the rough first, and finished on a shaper. If you want them all to be accurate make the patterns ½" larger than the finished



pieces are to be. Run this against the bottom of the shaper knife holder; place the rough piece on the pattern and cut out: I would not recommend the use of dowels to hold the halves together, as it is not strong and does not make a good joint. Cut a 1" dado in each half and insert a ⅛" piece of plywood 1" wide, with the grain running lengthwise, and glue in place. See sketch.

WOOD TURNINGS

Q *Can you describe a method of finishing wood turning on the lathe?*

A There are many finishes that can be done on a lathe. The turning to be finished must be sanded thoroughly. Use

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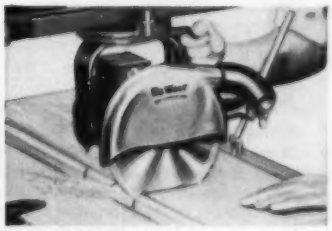

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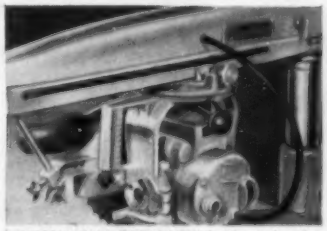

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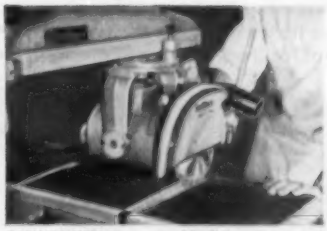

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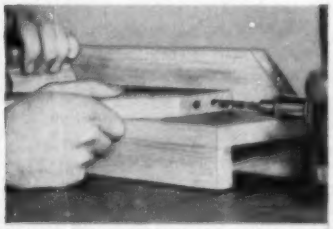

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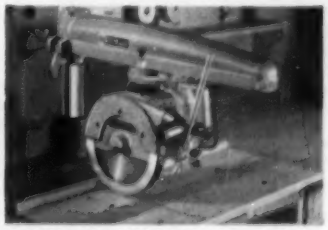

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a medium grit sandpaper for the first sanding and finish with a very fine grit. A nice glossy surface can be obtained by using a handful of soft wood shavings while the lathe is running at slow speed.

Some work is polished in natural color. However, the wood should be stained if you wish it to look like maple, walnut mahogany or a similiar wood. Any of the stains can be used, but if you use a water stain be sure to raise the grain by wetting the wood with clear warm water. Let dry thoroughly and apply stain.

For a wax finish, filler is not required as the wax will work itself into the grain. With the lathe turning at slow speed, apply the wax with a rag. The wax should be soft and pliable, about the consistency of butter. Spread on as evenly as possible, pressing the wax into crevices. Use plenty of wax but do not allow it to collect in corners, etc. Let set until the wax dries (some waxes evaporate faster than others). Using a pad, apply fair pressure while polishing, but do not keep pad at any one spot too long as heat will be generated, causing burning. Several coats will be necessary. Allow at least an hour between coats for drying.

For an oil finish apply linseed oil instead of wax, with plenty of friction followed by a drying time of considerable duration between coats. Some craftsmen apply oil and rub for five or ten minutes, repeating daily for a week or two.

RED LEAD MIXING

Q *What is the correct amount of dry red lead powder to be used with turpentine and linseed oil?*

A Metal surfaces, such as gutters which are subject to rust and corrosion, should be protected with red lead paint. Red lead is a paint pigment made from metallic lead through heating processes that oxidize the metal and turn it to the bright orange color. It comes in dry or paste form; or in ready mixed paint.

To make one gallon from dry powder mix twenty-five pounds of dry red lead into one quart of oil, a little at a time. Allow this paste to stand 72 hours, then add another quart of linseed oil and stir thoroughly. Just before using stir in a mixture of two-thirds turpentine and one-third drier. Use this for the primer coat; mix in some lamp black to darken the color for the second coat. Red lead paste made as follows can also be used:

Red lead	100 lbs.
Linseed oil	1⅞ gal.
Pure turpentine	1½ gal.
Liquid drier	1½ gal.

For the second coat add ¾ pt. lamp black to the above. This mixture makes 4⅝ gallons of light brown paint which will cover 600 square feet of new surface or 700 square feet of painted surface. Use a container at least one-quarter larger than the quantity of paint you wish to make and do not use a wooden pail that has contained butter or lard. For those who have not had experience in mixing paints, it is suggested that ready mixed paints be purchased.

WINDOWS

Q *In designing a house, how much space is recommended for windows and what kind of glass is best to use?*

A A safe rule, and one used by many builders, is to allow 20% of the floor space for windows. While the minimum of most codes is 10%, the higher amount is recommended. The purpose of a window is to provide light and ventilation to a room. On cloudy and dark days one needs lots of light, while on bright sunny days the amount of light can be controlled by interior shades and exterior awnings.

The design of the house more or less determines whether to use several small windows or one large picture window. Windows in two walls give a much better distribution of light. If a large picture window is used, Thermopane probably is the best glass as it requires no storm sash. For other windows use double strength, or polished plate glass, and provide screens for the part of the windows that are used for ventilation.

Some thought should be given to locating windows for the best possible movement of air. Cross ventilation where possible, with windows in the room opposite a window in an adjacent room, provides for free movement of air.

LATHE TURNING

Q *Can you tell me how to turn a ball on a lathe?*

A An article on how to rough out the material for a ball on a jig saw, and how to turn it on a lathe, appeared in *Homecraft Magazine*, January-February 1953 issue. Another article on turning a ball appears in Delta's booklet, "Getting the Most Out of Your Lathe."

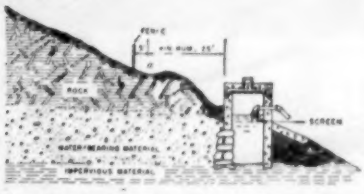
SPRING WATER

Q *We have water piped to a spring, and just a few feet away is another spring pushing all the loose dirt into the water so it is always dirty. Is there something you can suggest so that we can have clean water?*

A All springs and wells should be protected from drainage of any kind. In your case, an inclosure should be built for the spring that feeds the house. This enclosure should be built of rock and cement. (See illustration of a spring and housing as recommended by the U. S. Dept. of Agriculture in their pamphlet No. 1978, "Safe Water for the Farm").

The cover should be removable so that the spring can be cleaned once a year, but the water should be obtained through a pipe extending through the concrete wall. A gutter made of concrete, if possible, should be made around the spring not more than twenty-five feet away and drained into an opening below it. This will protect the spring from surface water; fill also can be used for this purpose.

Since only water from the spring which comes from water bearing material is desired, that part of the spring extending into the stratum should be lined with porous material, such as stones. Make the rest of the enclosure as tight as possible to keep out all surface water. Springs should be fenced to keep out stock and should be arranged so that stock cannot get between the gutter and the spring.



Properly constructed spring. If on ground higher than the buildings, an underground discharge pipe should be provided. Surface water is drained away from the spring by a trench (a).

SWEATING WALLS

Q *What makes a house sweat, and what can be done to correct this fault? The north bedroom walls sweat so much that it warps the furniture backs.*

A I believe the reason the walls of your bedroom sweat is because too much moisture comes in contact with the cold outside wall. This moisture is caused by cooking, laundering, bathing, showers, etc., and usually is more noticeable in the winter months because there is less ventilation at that time. You can reduce this to some extent by ventilating the house at intervals. The installation of a kitchen ventilating fan often helps this situation. You do not state whether the house has a basement or not, and if this bedroom that is causing the trouble is on the ground floor. If this is the case, moisture can rise from under the floors to cause this trouble. All basements and crawl spaces should be well ventilated. Try reducing the humidity in the house and raising the temperature of the wall surface. Insulating the outside walls with blown-in insulation is a good way to accomplish warmer wall surface.

Q *I have recently added a den to my house. It is panelled in cypress and I would appreciate it if you would advise me just how to finish this to get the best effect.*

A You do not state whether you wish to stain the cypress or finish it in its natural color. When selected for grain figure cypress finishes up beautifully in its natural reddish brown color. It requires no filler; simply wipe off the oil which cypress contains, with a cloth soaked in benzole. Sand the surface smooth and clean. Then shellac, varnish and rub or wax, or use flat varnish. If you wish to stain it, cypress can be finished to represent mahogany in red and brown; it also takes a good walnut finish and takes all brown stains beautifully. Penetrating oil stain can be used, also spirit stains and water stains. The latter are best used hot with some alcohol added to secure better penetration.

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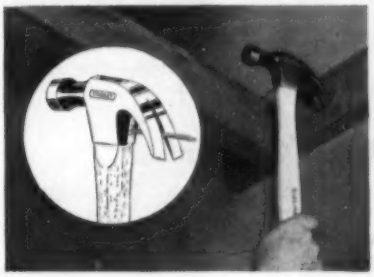

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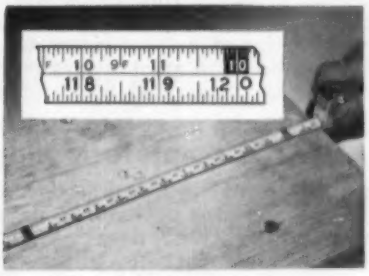

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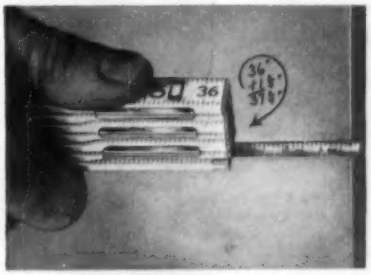

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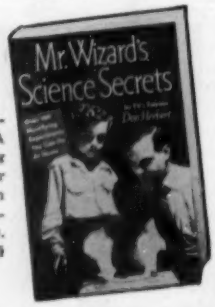

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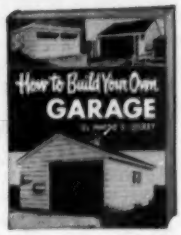

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TRI-LEVEL COFFEE TABLE

by JOHN J. BORZNER

THIS is a multi-purpose coffee table that will go well in your modern home. You can make good use of all three levels, with the cabinet enclosing any style record-changer-player. The bottom layer holds books, magazines, and records, while the glass top is a coffee or cocktail work surface.

The entire table is made from ¾" veneer plywood. This construction eliminates making a frame and affords a solid structure. Select the veneer surface with care. Decide whether you want dark walnut, cherry, red mahogany, etc., or a light finish such as blond or limed oak, korina, birch, champagne mahogany, or even a blend of woods. The plywood may separate if you attempt to bleach the darker woods light. A nice effect in a blond finish can be obtained from the lower-priced gumwood.

Measure your needs carefully, as plywood with veneer faces in the exotic woods runs around 70c a square foot for the ¾" size. Gum is about 55c.

Check measurements carefully

Check the measurements of your record player and amplifier against the dimension on the plans before you start cutting. If you intend buying a unit, most mail order catalogs give all the needed clearance requirements for their products. Speaker size is important also. All the average size combinations will fit this cabinet with ease. Hi-Fidelity is not recommended in this cabinet as it is not designed to utilize fully the output quality of Hi-Fi speakers.

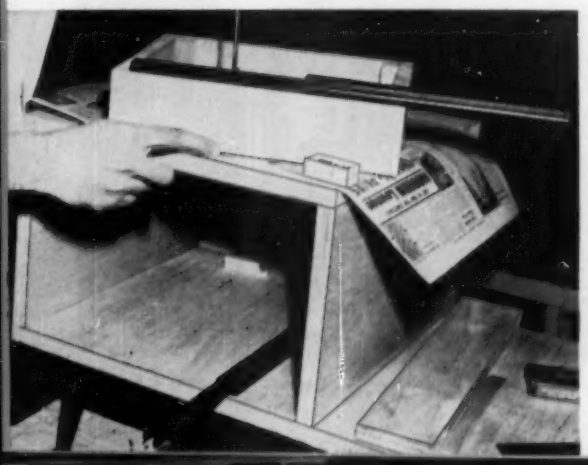
Construction begins with the base. This is the bottom tier; the other units are attached to it. Cut the base from a piece of your selected ¾" plywood to 18" x 45". Attach the two end pieces and center piece, cut from ¾" stock to dimensions shown, to the base by carefully gluing and nailing through the bottom. The bottom edges of these two end pieces are notched so the veneer face on the sides skirts the end grain of the plywood base.

The end pieces must be exactly perpendicular to the base or you will

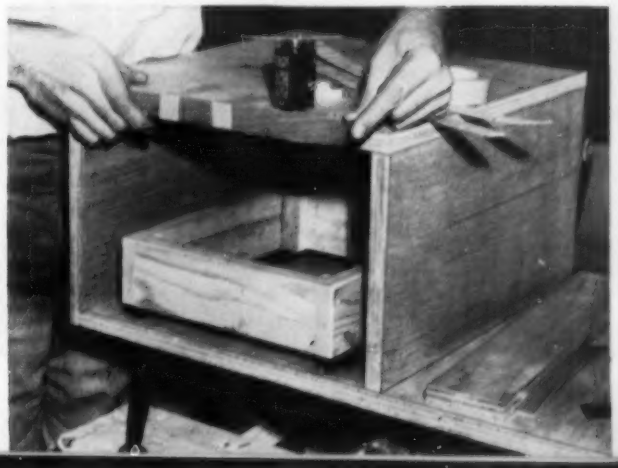
Reverse side of the completed table showing the peg-board in place. This is inset one inch from the outer edge.

Ready-made wrought iron legs make the attractive support for the table. These can be made at home or purchased.

Attach the drawer slides, if you are going to use them, with care. These are available at almost all radio stores.



Thin veneer strips cover the edges. Use wood glue and hold them in place tightly with masking tape until dry.



have trouble with the door later on.

The top piece is added next. Select an attractively grained piece of stock and cut it to 16" x 18". This must be kept perfectly square to assure a good fit. When you cut the plywood, if don't have a fine tooth saw blade on your machine, it is advisable to score through the veneer layer with a razor blade knife on the line you intend to cut. Then by cutting just outside of this groove you can avoid the multitude of fine chips that may arise to ruin your work if a coarse blade is used.

Attach the top to the end and center pieces by gluing and/or nailing with fine finishing nails or by glue with glue blocks underneath.

Add legs next

Now is a good time to add the wrought iron legs. Use a simple template to make sure they are even all the way around.

Next add the thin veneer strips to all the exposed plywood edges that will be visible. If you are unable to obtain veneer strips at your lumber yard, cut the thin faces from scraps of the plywood. Cut it to width size, then lengthwise, about 1/32" thick. Glue these to the edges and "clamp" with masking tape until dry. When dry, sand the edges flush with the sides, top and base.

The Masonite peg-board then is cut to fit the cabinet opening. Another piece of ¾" stock is cut the same size for the cabinet door. Glue four blocks 1-3/16" in from the edge in each corner of the peg-board side. Two more blocks are added in the center of the bottom and top pieces. These are used to attach the peg-board to the cabinet and give it the one inch inset. The Masonite is not attached until the table is finished.

Attaching varies

Methods of securing the record player to the door depend on the model used. It probably will be easiest to make a wood box to fit the machine and screw this to the door. Metal drawer-slides can be attached to the sides or bottom of this box, or a sliding pine or ply platform can be made. The latter works very well if the load is not too heavy.

The four support pieces for the glass top are cut from oak flooring. These are trimmed to size, sanded and attached to the center and end pieces by finishing nails. They are set ¼" down from the top edge of the end piece to form a stop for the glass top.

Add the shelf to the supports, using finishing nails from inside the cabinet and underneath the support pieces.

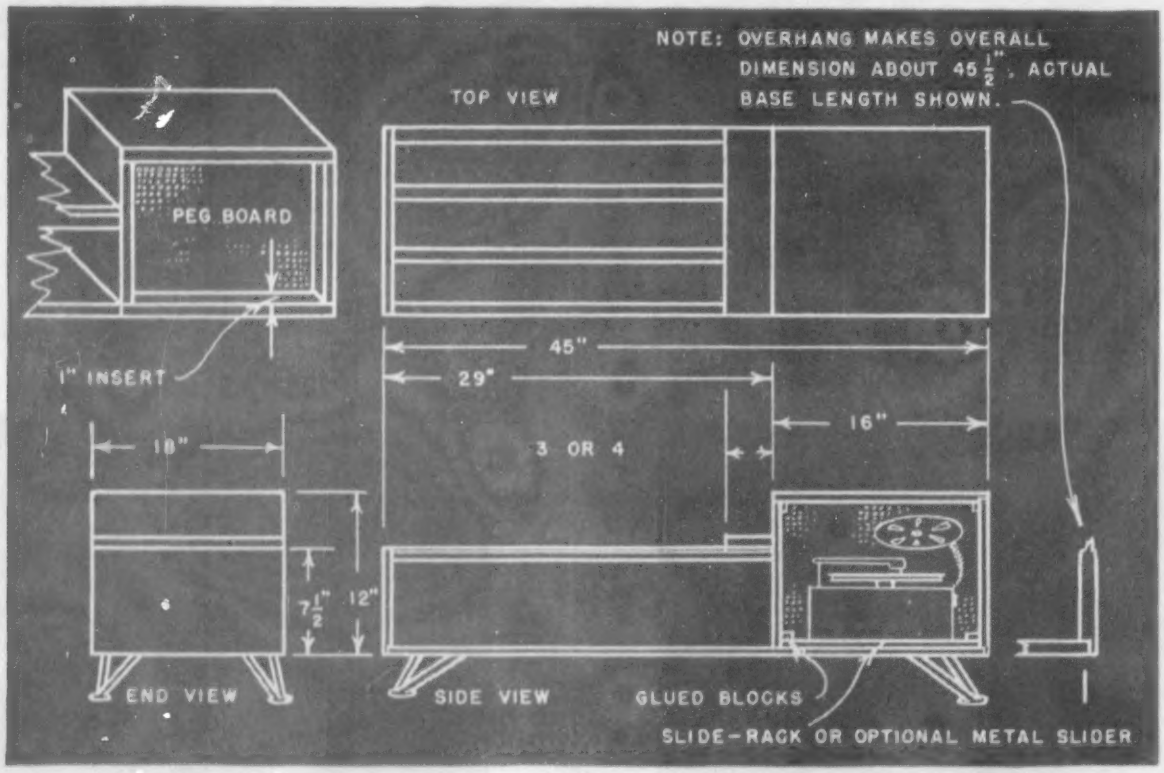
Measure the exact size you want for the glass top and order it from your hardware store. Single strength will do, double strength is better.

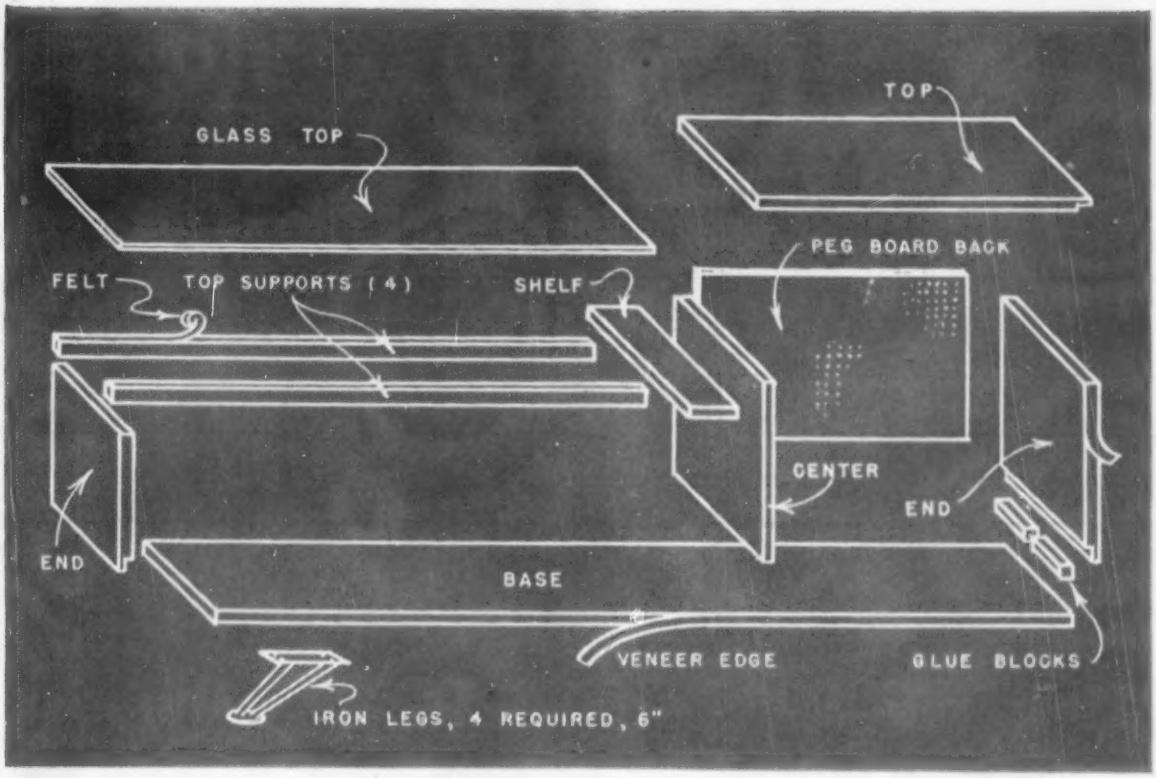
Take pains with finish

Next comes finishing. Here is where good work is enhanced or ruined. A varnish finish is best but very difficult to do professionally at home. And it is time-consuming if it is done correctly. The original was done in clear lacquer as follows:

Finish sand with very fine paper and dust well. Brush on a coat of thinned, paste wood filler. Let this set for about five minutes or according to the instructions on the can. Then wipe it off across the grain and let it dry overnight. When dry it is sanded again, using fine sandpaper.

After a final dusting, a coat of clear lacquer is sprayed on. A brush finish can be had by using brushing lacquer. Sand lightly between coats with worn, fine paper. After the final





spraying, the number of coats can be determined by the depth of gloss desired. Rub the lacquer with finish grade rubbing compound and felt. After removing all the compound, finish with a coat of furniture wax.

Add the felt strips to the support pieces and put on the glass top. A small cleat can be screwed into the bottom of the base on which to wind the power cord to the record player when it is not in use. The peg-board is now put in place. This can be painted a semi-gloss white or flat black, or left the natural brown. Assemble the components, attach the drawer pull, which can be made from a small picture frame—and the piece is finished, ready for soft music and good coffee.

The deep gloss lacquer finish can best be obtained from a sprayer. However, brushing lacquer can be used.

PARTS LIST

Cut from ¾" veneer plywood
Top—1 16" x 18"
Cabinet end—1 11¾" x 18"
Center—1 10½" x 18"
Support end—1 7½" x 18"
Base—1 18" x 45"
Shelf—1 3" or 4 "x 18"
Cabinet front door—1 9½" x 14½"

Other Materials:
Cabinet back. Peg-board (Masonite—1 9½" x 14½"

Glass top—1 (To fit)
Glass top supports (Oak flooring) 4 (To fit)
Iron legs 6" high—4
Pine or other wood frame to fit player
Small picture frame or drawer pull to suit

MISCELLANEOUS.
Veneer strips (see text), screws, nails, drawer slides, glue, felt strips (opt.), glue blocks, wood filler and finishing materials, potted plants and/or other details to suit.

DO IT YOURSELF but DO IT SAFELY

By NICHOLAS P. STUMPF

Here's a case of: "In a tie you lose . . ."

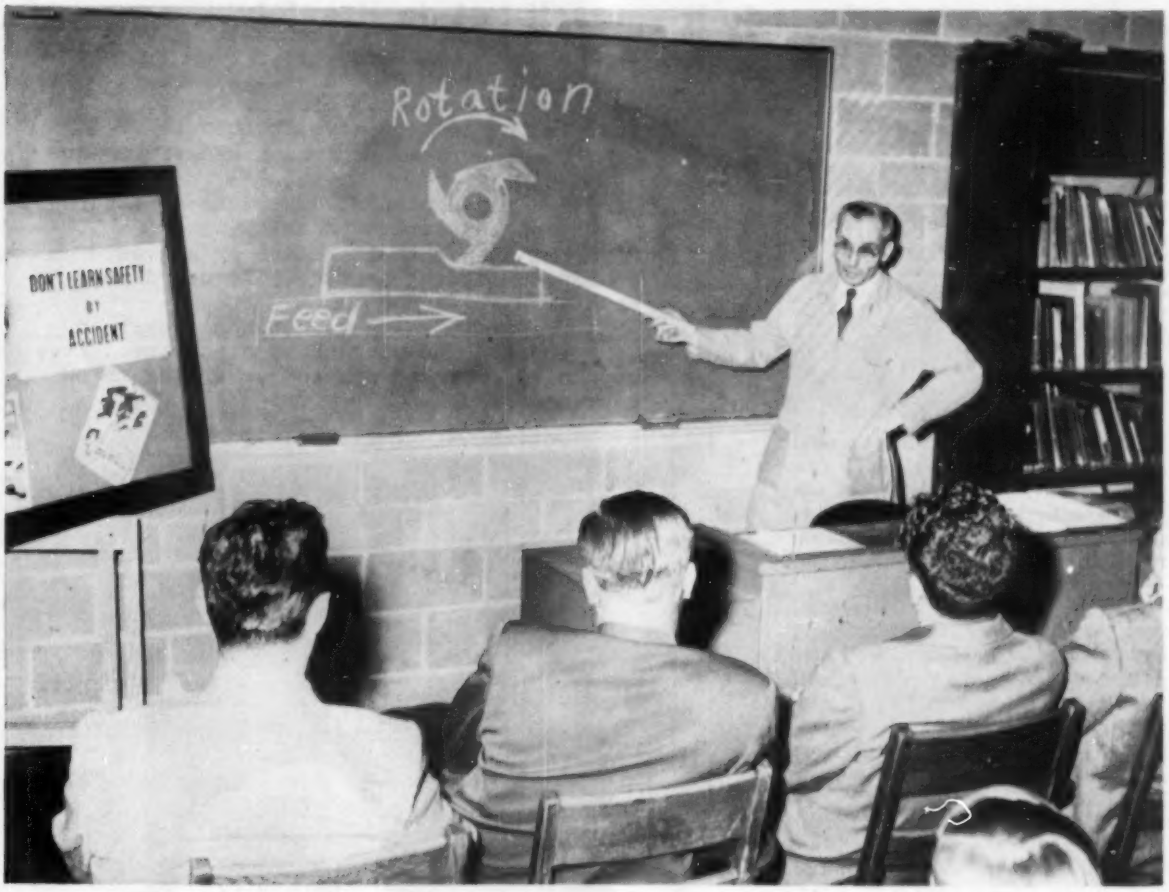
Photos Courtesy
American Mutual Liability Insurance Co.

This article is an attempt to move into the void between the rapid growth of the home workshop movement and the safety education which should go hand in hand with it. The void exists because some people are unwilling to admit there is danger in using the equipment—that is, when proper instruction does not precede its use. To ignore or minimize a fact is a sort of negativism that helps no one.

Some people hear of accidents in home workshops and there is created, thereby, fear and uncertainty for their own safety. Fear is not the answer to safety. In fact, it stands in the way of the full satisfaction which should come from creative work. Fear must be displaced by confidence. And that comes only with knowledge and understanding of the possibilities and limitations of the equipment. The safest approach to a machine is with respect and confidence (not with fear).

There are numerous books, pamphlets, articles and illustrations showing the proper set-up for various projects. These are of the finest, and should be used wherever possible. The things which can be done are so many, however, that no one possibly could outline them all. More are being developed every day. There are so many possibilities, and so few things that must not be done, that the shortest route to safety is in learning the limitations which the equipment has. This is a positive form of negativism, as it were, since the observance of certain don'ts may result in a long, satisfying and safe experience.

A knowledge of the rules applying to each machine will allow every home workshopper to develop his own methods within the laws of action and counter-action governing the tool. The possibilities are boundless when the limitations are thoroughly recognized and respected. The best safety device known is the one resting on the neck and extending about nine inches upward therefrom. This device must be reasonably well filled with knowledge and must exert absolute control over the worker at all times.



"Feed against the cutting edge" is the most universal rule applying to hand-fed power equipment. The latest safety meeting at Maine Township High School, Park Ridge, Illinois, boasted a full house of home workshoppers. Nicholas P. Stumpf, Instructor of wood work at Maine Township High School, illustrates on the blackboard the relationship between rotation and feed for the shaper or router. There must be no doubt here, as 85% of the shaper accidents result in permanent injury of some degree.

This article is an attempt to set forth the knowledge needed to insure maximum safety in the operation of home workshop woodworking equipment. In this knowledge, we can all enjoy to the full this hobby which we love.

SAFETY RULES OF A GENERAL NATURE

Every workshopper must be his own safety engineer. He should practice looking for things around the shop which present an accident potential, and take steps to render these things safe. One who develops safety mindedness is able to eliminate many hazards about his home and shop.

1. Do not store volatile solvents like gasoline, naphtha, benzine, thinner or varnish remover in glass bottles. The bottle may be broken and the rapid evaporation of the fluid may cause an explosive mixture to be set off by the flame of your gas water heater.
2. Burn all oily rags and papers as soon as you are through with them.
3. Keep the litter cleaned up and burned. Keep the floor clean around your machines.

You'll get a kick out of freehand work (!).

STICK 'EM UP

A LOT of glue jobs are unsuccessful because the worker neglects a few fundamental rules and does not use some simple but necessary precautions. If you will apply the following rules, your glue jobs will be easier, neater and stronger.

Oil is an enemy of glue. Keep all your tools, working surfaces, and objects to be glued free of it. Never pass you hand over a freshly planed surface if you are intending to glue it. The small amount of oil that will be transferred to the surface from your hand may cause the glue to scale under the first strain.

Always use a glue pot and never heat your glue over an open flame, if you are working with that kind of glue. If you do not have a glue pot, try putting a large electric bulb into water and then put a can of glue into the hot water. Put the bulb into the water before you turn it on, and be sure not to get water on the socket. The heat supplied by the bulb will keep the glue at a working consistency.

Always make it a practice to use warm wood when gluing. The glue will penetrate better, and your wood will not chill quickly. If the wood chills after glue is applied the penetration will be poor and bonding will not be complete. If the wood is put under any strain the bond will break and the glue will scale.

Never use wet or green lumber when gluing. It will not bond and you will have much work to do over.

After setting up and gluing the work apply pressure as quickly as possible, before the glue begins to set.

A chip glue should set over night in water, and should be heated in a glue pot when needed the next day. Never heat it over an open fire. Just dissolve enough for one day's work.

An interesting sidelight on glue is its detergent value. It will wipe dirt from painted surfaces quickly and easily. Make a solution of three tablespoons of powdered glue and ten quarts of water. It works wonderfully well on painted wood work.

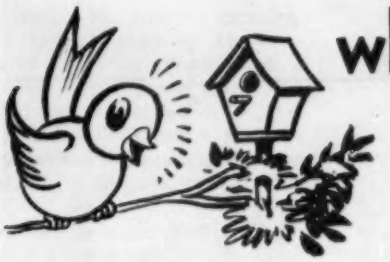
do it yourself but do it safely

4. Oil on the floor can cause you to slip and fall into a machine. Wipe it up and put sawdust on the spot to give traction.
5. Be sure electrical equipment and wiring are sound.
6. Keep machine tables clean and free of scraps, tools and materials not being used.
7. Pull the plug when the blade or knives of a machine are being handled. Do not depend on a snap switch.
8. Clear your mind of any emotional upset or worry before stepping up to a machine. Keep your mind on your work and your fingers on your hands.

A large insurance company recently reported an accident which happened when the saw was left hanging off the table while the operator stooped down to pick up his rule. *Do it yourself but do it safely* by installing the auxiliary table as shown. It also prevents clothing getting in the saw.

9. When friends call and watch, do not try to carry on a conversation and run a machine at the same time.
10. Running and playing children should not be allowed in the workshop when machinery is running. Where small children are about, the power supply should be kept locked when not in use.
11. Most machine jobs in the home workshop are one-man jobs. Warn people to keep hands off—unless you ask for help and give instructions.
12. A sharp tool is a safer tool. Take time to keep yours well dressed.
13. Be clear headed and alert at all times when operating machinery.
14. The most general rule governing the safe operation of woodworking machinery is:
    Feed in the direction opposing the rotation of the knives. Feed against cutting edge.

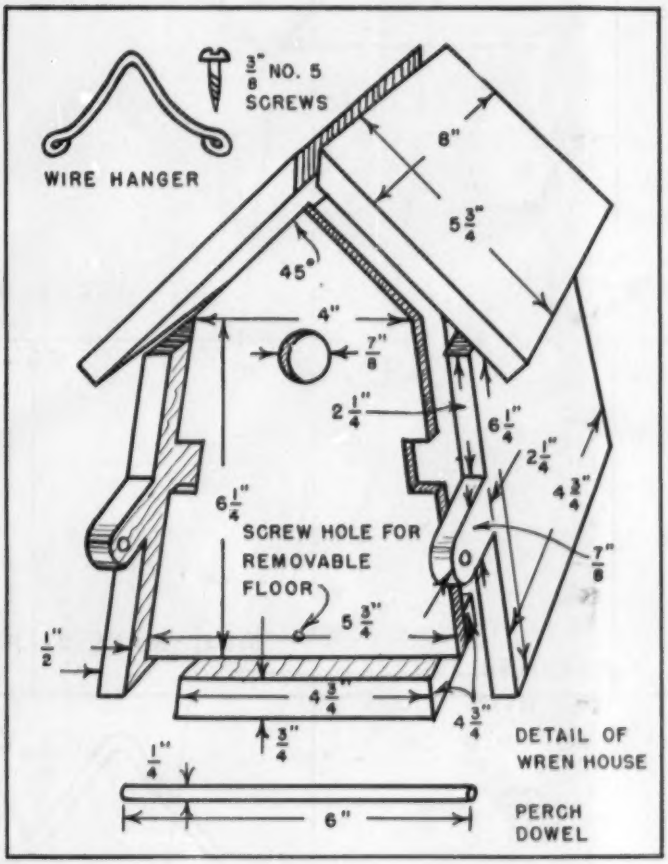
(*Continued on page* 309)



what's a yard without a WREN HOUSE?

By DICK HUTCHINSON

Associate editor



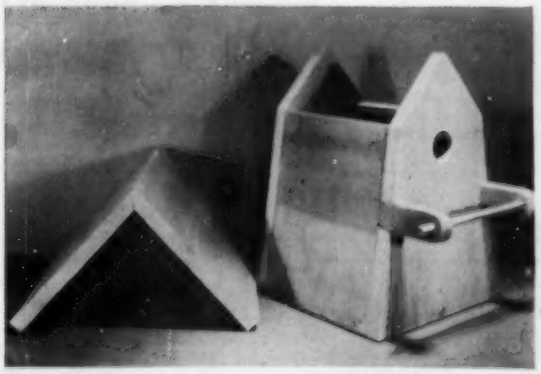
"For Rent": Attractive wren house.

IT'S a happy day, after a long winter, when we hear the first robbin announce the arrival of spring. When the birds swarm about again a fellow gets a new lease on life. You guessed it—I can do without winter!

The wren is the easiest of all birds to attract. He will live in man-made shelters and will fly for miles in search of a suitable house. Once he finds it he will return year after year. The wren raises two, and sometimes three, families in a single season. He seldom will build in the same shelter twice in succession, preferring to alternate. This being the case, you had better build at least two houses for each pair of wrens you hope to attract.

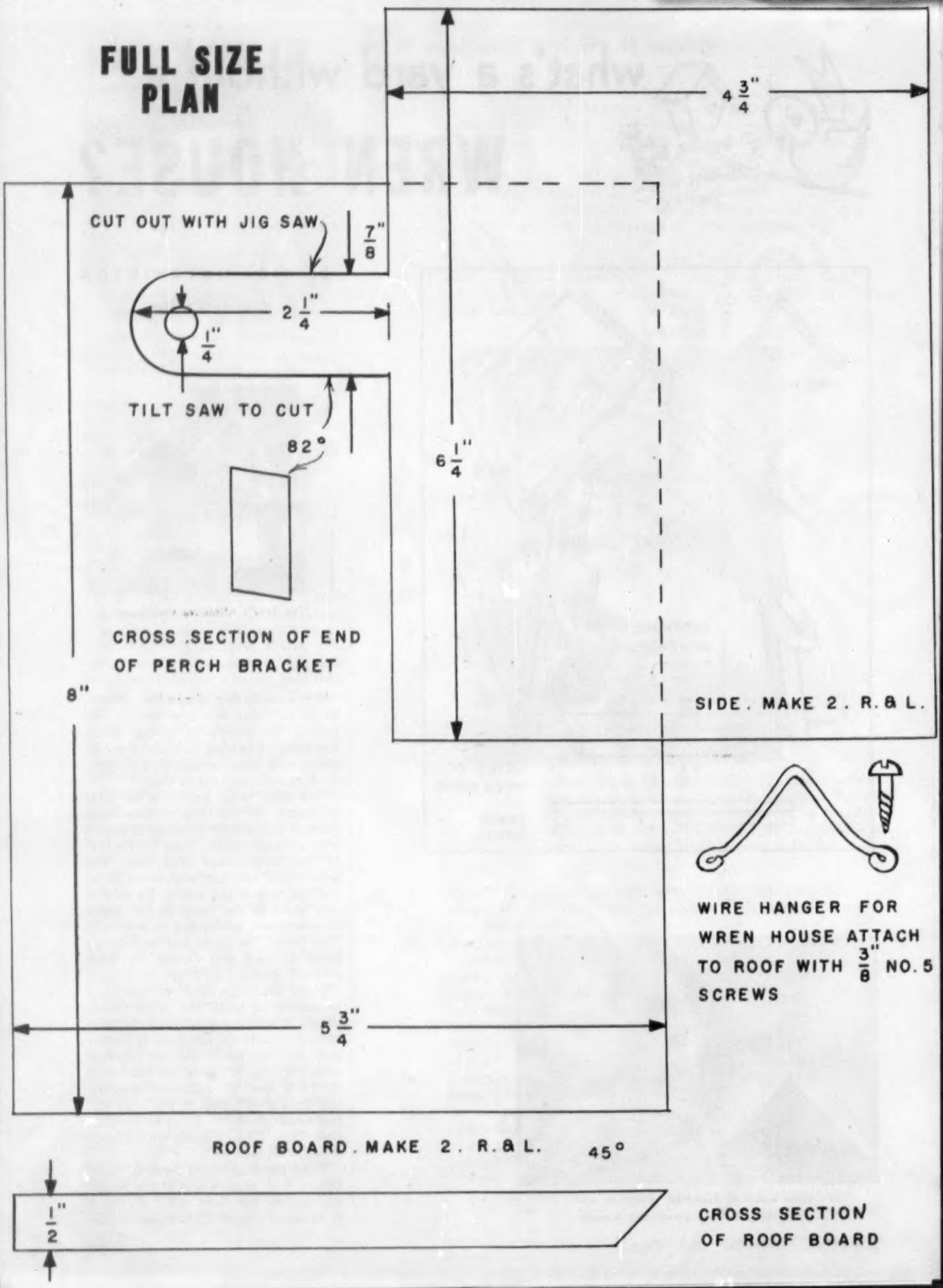
These drawings detail all the parts necessary to build the wren house shown. With the exception of the floor, all of the parts are cut from ½" white pine. Saw out parts, and nail together with 1¼" No. 16 brads; set the heads in. Drill the ⅞" entrance opening, and drill a ¼" hole in the rear end just under the roof—for cross ventilation. Then fill nail holes with Plastic Wood, and sand off.

Make the floor board from ¾" pine. Drill a hole in each end of the house, and set in the floor with 1" No. 6 R. H. wood screws. This makes it pos-



Wren house all assembled, except for applying the roof. Note how assembly is made.

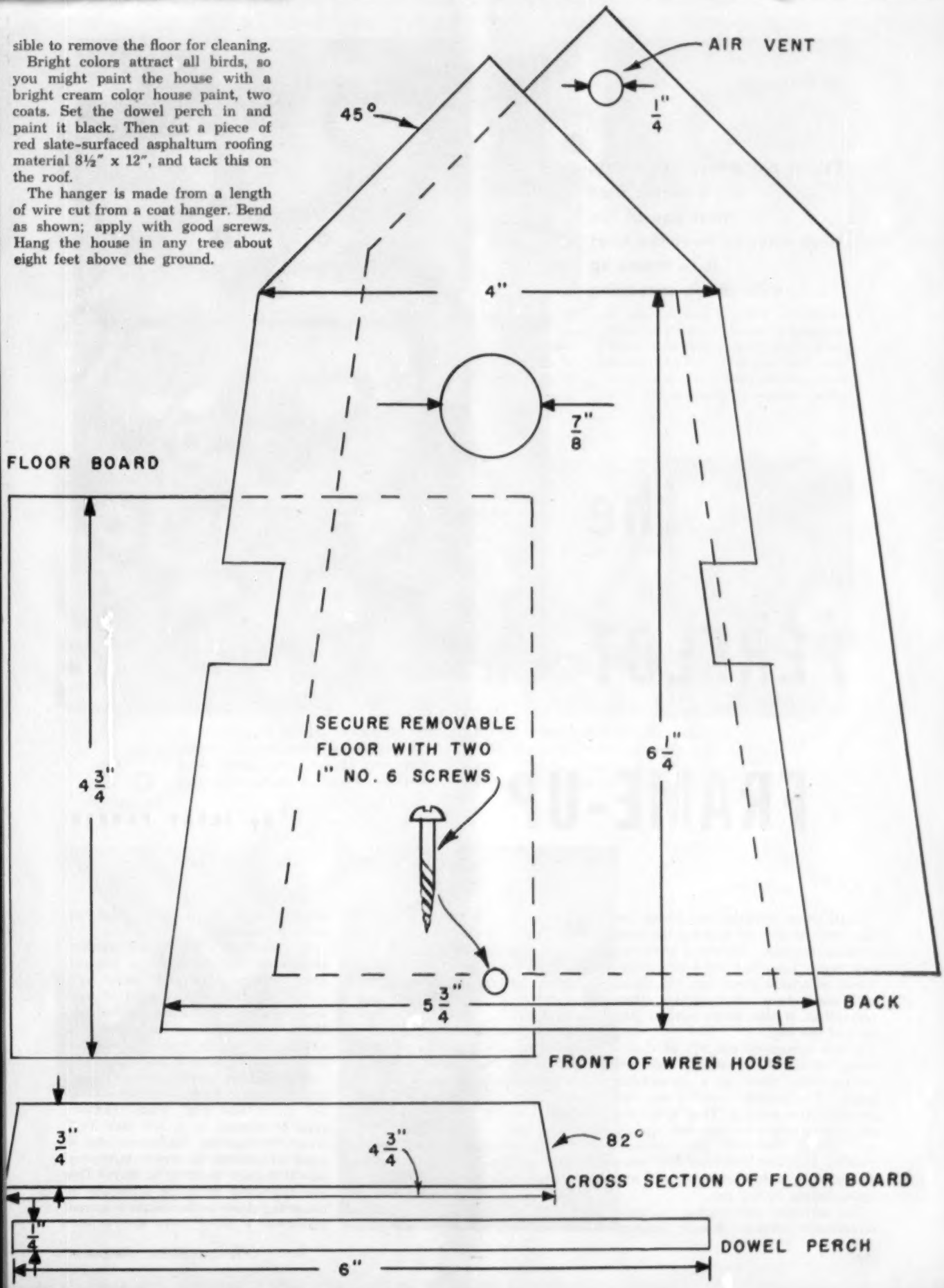
FULL SIZE PLAN



sible to remove the floor for cleaning.

Bright colors attract all birds, so you might paint the house with a bright cream color house paint, two coats. Set the dowel perch in and paint it black. Then cut a piece of red slate-surfaced asphaltum roofing material 8½" x 12", and tack this on the roof.

The hanger is made from a length of wire cut from a coat hanger. Bend as shown; apply with good screws. Hang the house in any tree about eight feet above the ground.



This is not a mystery story. It's a simple fact that one of the best ways to beat the heat is to frame up with shade screening

the PERFECT FRAME-UP

By JERRY PARKER

THE home workshopper knows he can save money by making his own window screens. They're a wise investment. Like any good screening, shade screening keeps out the gnats and mosquitoes. But unlike other screenings, it also keeps out the hot rays of the sun.

Shade screening consists of thousands of small horizontal louvers permanently tilted at a downward angle. The louvers block the sun and provide extra privacy. They eliminate glare, yet plenty of air sweeps through the spaces between the louvers. Fabrics, rugs and draperies in a room protected by shade screening will not suffer fading by the sun.

The scientific explanation of shade screening's virtues should interest do-it-yourselfers. Once heat gets into a house, the engineers remind us, you can't get it out—unless you have an air conditioning system. In today's insulated homes, most heat enters through the windows, so you should stop it there.

Should you leave your shade screening up in winter? By all means. In winter the sun travels a different orbit, rides lower down in the sky. More of the sun's rays will come through your shade screening then, when you welcome such heat. And your shade screening still will be contributing to your privacy and giving your windows a neat, trim look.

Shade screening is easy to install. You simply staple it to a wooden frame. It may be cut with ordinary scissors or a sharp knife. Use tin snips, if you insist.

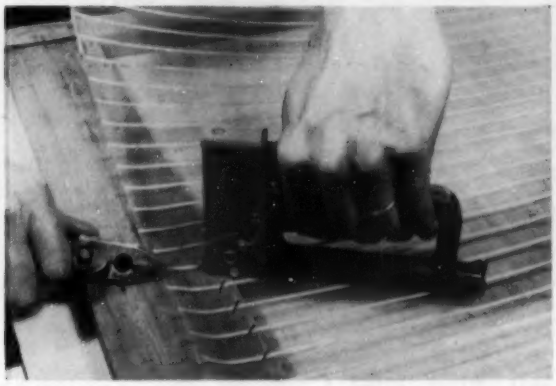
It is made of a high grade marine aluminum that is given a neutral green alodine finish. It never requires painting or any kind of upkeep. It comes in various widths from 18" to 42". Try to get a width that will fit your screen frames exactly so the sides don't have to be trimmed.

Most lumber yards carry window screen stock. Such stock usually is ¾" thick and 1¾" wide. Bottom rails of screens as a rule are 3½" wide. Corrugated fasteners and a good waterproof glue will put your screen frames together to stay. The pictures show the steps to follow in mounting shade screening in a screen frame.

1. Cut frame members to size, assemble with corrugated fasteners and glue. Frame usually consists of two side pieces, top, middle and bottom rails. But joints are O.K. for construction. Put a corrugated fastener on both sides of frame at each joint.

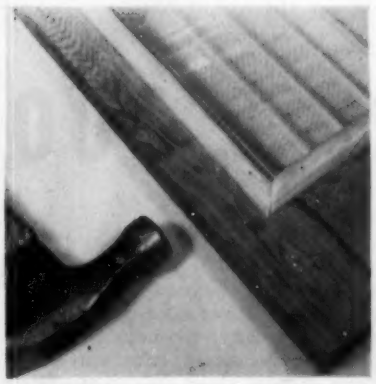
2. Cut the shade screening a couple of inches longer than the inside dimension of the screen frame. It should be possible to get shade screening in a width to fit your frames so that the sides don't have to be trimmed—thus saving time and waste.

3. Lay screening on frame with louvers tilted down and out. Staple top edge first. Staple every vertical at 45° angle. Insert staples just a few louvers from inside edge of frame so that molding will cover them later. Use sturdy 3/8" galvanized staples.



4. After stapling top edge, carefully pull tight—there's not much stretch to shade screening; staple bottom edge. Pair of pliers gently tugging on verticals can help this operation.

5. Trim off excess shade screening with sharp knife. Carpenter's trimming knife, pictured here, is fine for chore; so is linoleum knife. Be careful not to get scratched by screening.



6. Application of 1/2" half-round molding to cover raw edges of screening is last step. Use 1" galvanized brads to attach molding. Brads through molding are all that is necessary to hold screening at sides. Paint or stain screen frame as desired.

7. Finished screen frame with shade screening. Come on, sun—we're ready!

"All right, what are we waiting for? Let's go!"

What youngster can misbehave in the car when he's "driving" behind a wheel like this?

By ROLAND LOEWEN

LET SMALL FRY DRIVE, TOO

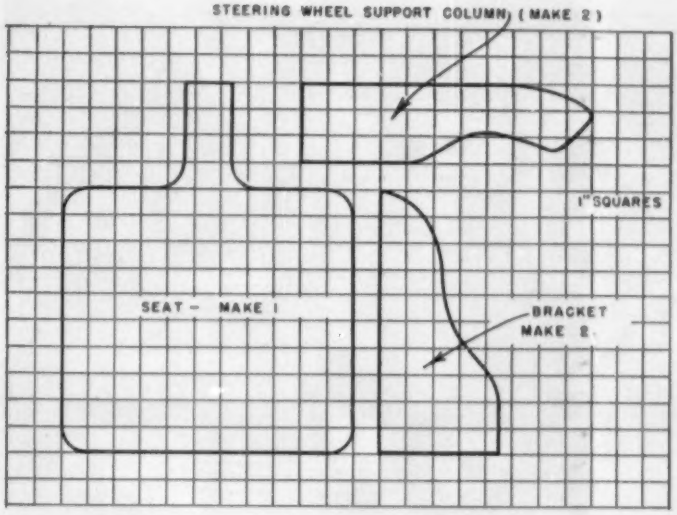
A TOY steering wheel will make a trouble-free passenger of your child. Made of wood and two pieces of strap iron, this steering wheel toy resembles an automobile baby seat.

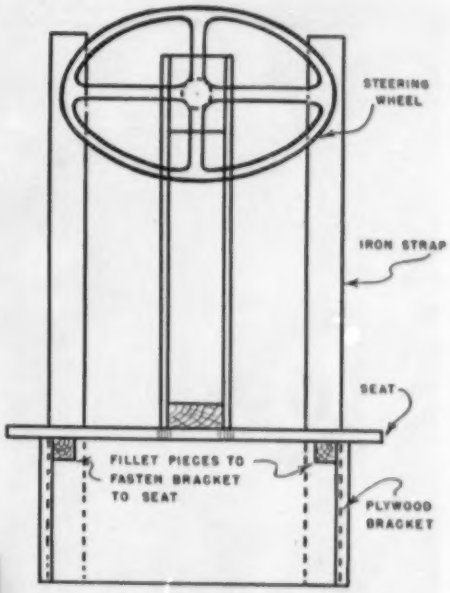
I cut the seat and the steering wheel out of ¼" plywood. The other wood parts were made of 1" (nominal) lumber. I used one short piece of wood dowel rod for the steering wheel axle. A large, heavy nail probably would do as well. Although I made the steering wheel out of plywood, it could be made of regular ¾" inch lumber just as well.

I started by cutting out the seat, with a scroll saw, using an 11" x 14" piece of ¼" plywood (See sketch). After cutting it out, I smoothed the edges with sandpaper. Then I rubbed some wood paste in the rough edges and sanded them smooth when dry.

Next, I cut the bracket support piece out of nominal 1" lumber. The two brackets were cut out of ¼" plywood. I used two fillet pieces about ¾" x ¾" to fasten the brackets to the seat (See sketches). After spreading a coat of good wood glue on the fillet pieces I nailed them securely.

The steering wheel support columns are cut out of scrap plywood. The blocks at the top and bottom of this column were cut out of the 1" lumber. When I had assembled the steering column I fastened it securely with



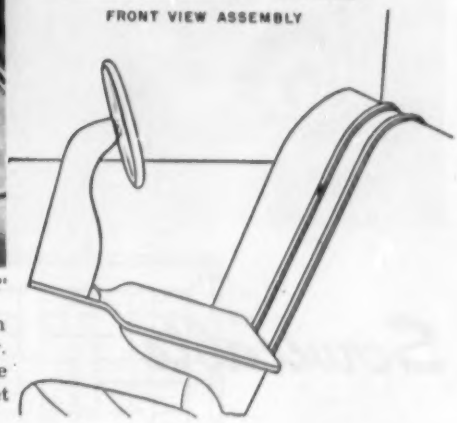


FRONT VIEW ASSEMBLY

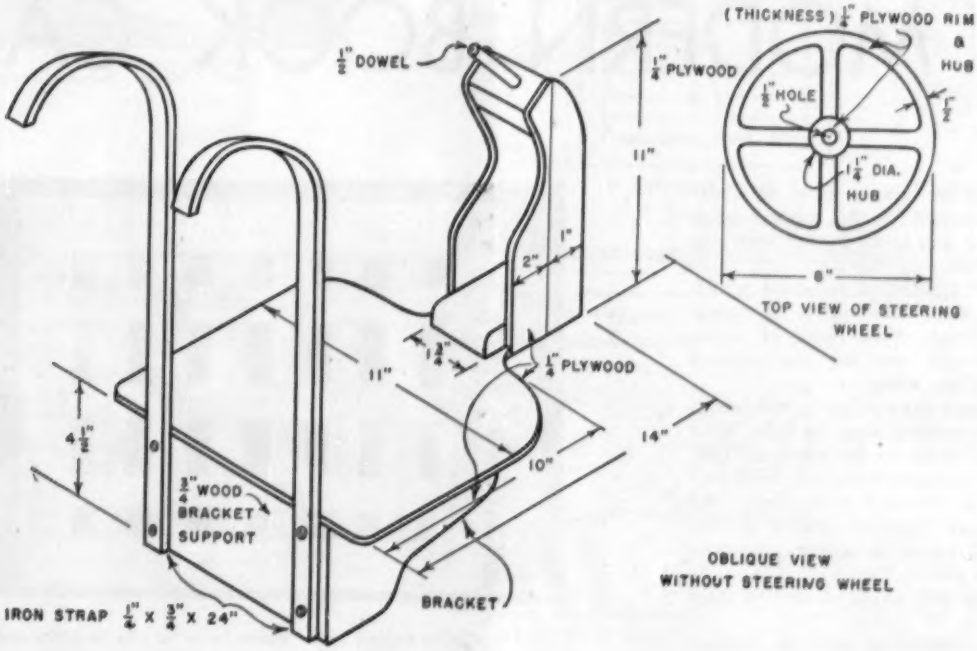
glue and nails to the neck of the seat. Then I drilled a ½" hole in the block at the top of the column and put in the ½" dowel rod which acts as an axle for the steering wheel.

I made the steering wheel out of three pieces of ¼" plywood. They were scroll cut, then glued together and turned on the lathe. It made a handsome steering wheel, but a husky child could break it easily. A solid disc of wood with a ½" hole for the axle would be better and would look almost as good. It could be cut out with a scroll or keyhole saw, and the edges smoothed with sandpaper.

"Don't talk to me while I'm driving, Mother."



After filling the nail holes with putty and wood paste, sand the whole thing and paint it. The iron supporting straps are bolted to the bracket support with ½" stove bolts. After that—"give 'er the gas!"



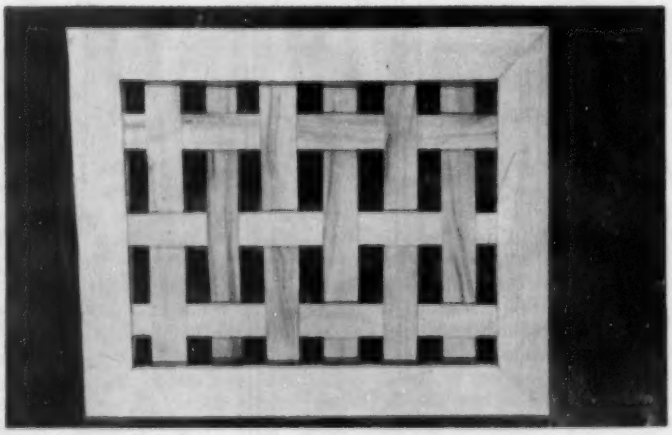
Servicable

MODERN BOOK CASE

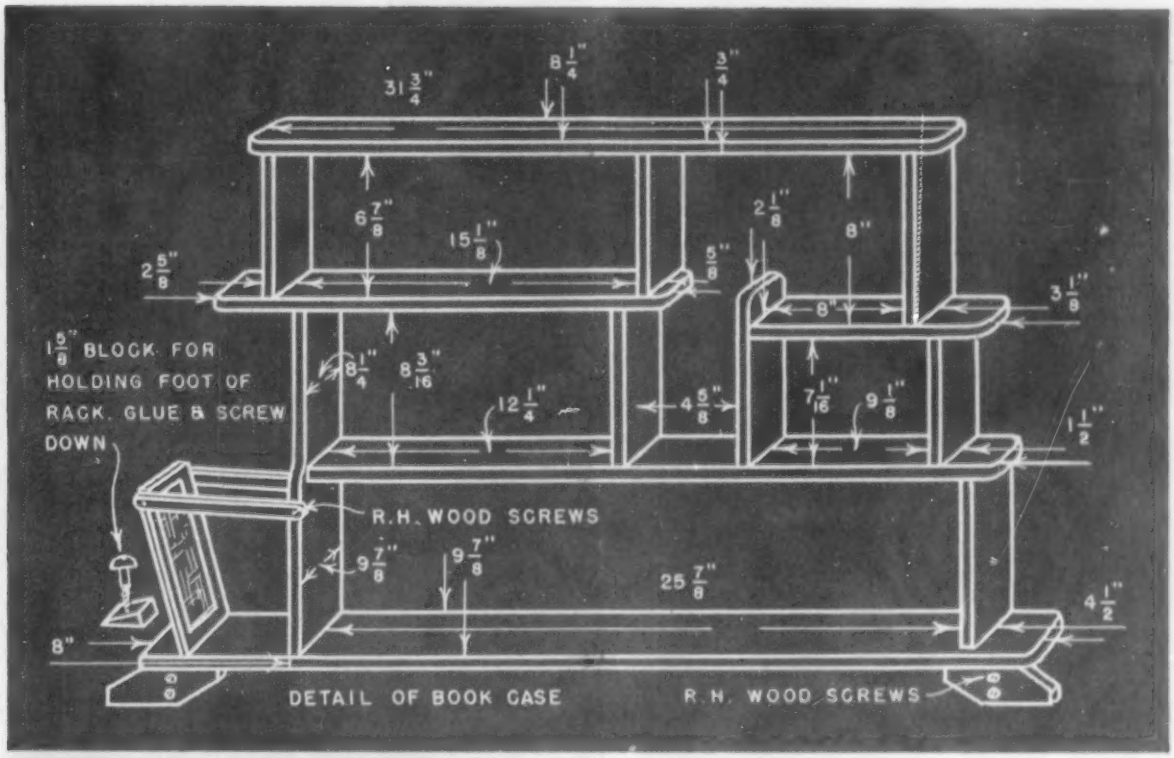
USE either knotty pine or California redwood for this modern book case and it will blend in well with any type furniture. This one was built from ¾" California redwood which requires only sanding to a satiny smooth finish. Two coats of white shellac bring out all the natural beauty of the wood.

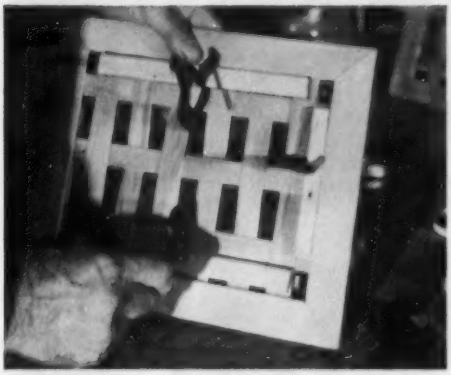
The pieces are cut out on the bench saw; the sanding may be done on a machine sander or by hand. In fact, even the unhandy man can build this piece with ordinary hand tools. The corners are rounded where shown, and each board is sanded smooth—first with coarse, then very fine sandpaper. For the final finish use 000 steel wool.

Begin assembling with the bottom

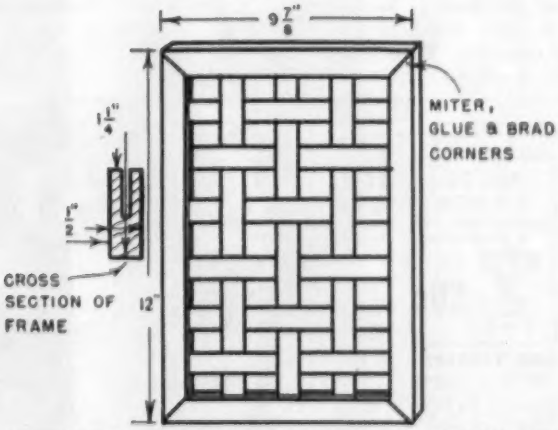


The assembled basket weave frame for the magazine rack.

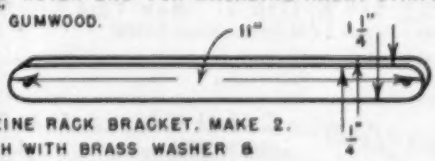




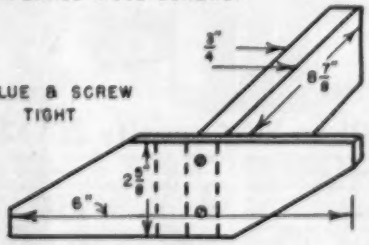
Fitting the woven assembly into the frame. Note clamps.



BASKET WOVEN END FOR MAGAZINE RACK. STRIPS ARE 1/16" X 7/8" GUMWOOD.



MAGAZINE RACK BRACKET. MAKE 2. ATTACH WITH BRASS WASHER & R.H. BRASS WOOD SCREWS.



FOOT. MAKE R. & L.

shelf and work up. Coat the contact surfaces with glue, then draw down tight with 1½" No. 6 F. H. wood screws; set the heads in. After completing the assembly of the case, make and attach the two feet, as illustrated. Then attach the block for holding the base or foot of the rack.

Make the four pieces for the frame of the magazine from which to cut the strips for the basket weaving. Cut these strips thin enough so that they will slip into the groove in the frame. Sand smooth all over.

Weave the pieces together, as illustrated in the drawing, then clamp a strip of wood on either side of each of the four sides (see photograph), and draw together so that they will slip into the groove in the frame. Coat

Assembling the book case.

the ends of the woven strips with glue, apply glue to the mitered ends of the frame, and assemble. Remove the clamps and brad the corners tight. Check the frame with a steel square, and let set for about 24 hours to dry.

Make the two brackets and complete the assembly. Then set all nail heads with a nail set.

Sift a bit of the finest sawdust (sanding dust is best), and mix one party to one part of resinous glue. Make a thick paste; fill all nail and screw holes. Let dry for about 24 hours, then sand off smooth. If the sawdust is of the same wood as was used in the book case it will be difficult to detect the filler from the wood itself. Shellac, let dry—and your book case is ready to use.

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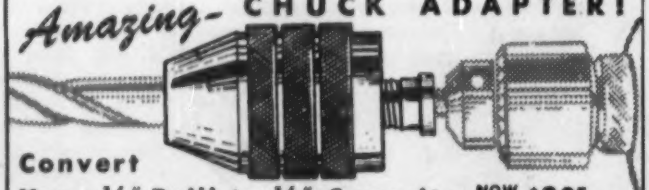

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RANDOM QUESTIONS

Q. I have just become the owner of a lot of tools that have been neglected and are badly rusted. How can I make them look new and bright again?

A. Take off the loose rust with a wire brush, then remove the rest of the rust with a rust solvent such as ammonium citrate. Rub with steel wool wet with the solvent and rerub until the tool is bright and free from rust. Paste wax or oil should be applied to prevent further rusting.

Q. I wish to frame some oil paintings, some on stretchers and some rolled up. How do I go about framing them? Should the painting be sprayed with shellac to protect it?

A. Framing an oil painting is similar to framing any other picture except that no glass is used. Cut the picture molding to fit the outside measurement of the frame on which the canvas is mounted, mitering the four corners. Nail securely. Insert the painting and if the frame has been cut to correct size it will stay in place. Lay a paper backing over the back of the canvas and paste the edges to the picture molding. This backing will keep out the dust and hold the canvas securely in place. To frame the pictures that have been removed from the original frames, paste them to a heavy cardboard using a vegetable glue. The pictures can then be framed as though they were on the original stretchers. To protect the paintings use a picture varnish made for this purpose. In all cases the oil paint must be thoroughly dry all the way through to the canvas; this takes a year or more. The glue and varnish may be purchased at most art stores. Brudno Art Supply, 601 N. State St., Chicago, Ill., carries both these items.

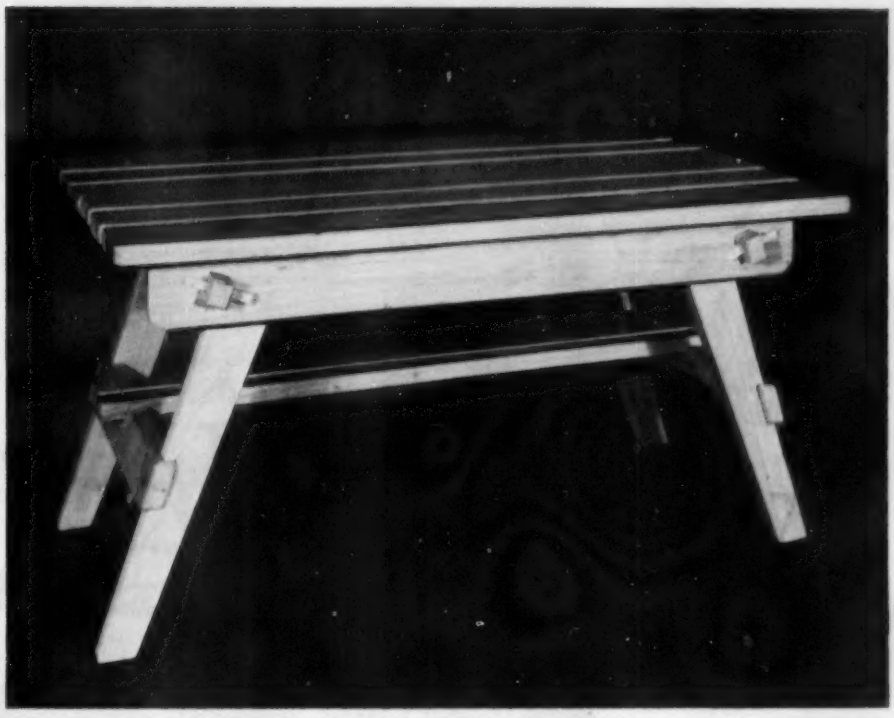
Q. Will you tell me how to finish salad bowls so that they will be absolutely safe to use for food?

A. The consensus of opinion among the makers of fine finishes that we have contacted on this subject seems to be that mineral oil or pure olive oil is the best finish to use on salad bowls. Certainly there is nothing in either oil that could do any harm, and the bowls will become more beautiful as they are used because of the oil that will be used in the salads. With the mineral oil simply rub with fine steel wool and apply the mineral oil. Polish and apply another light coat after which they are polished again. The olive oil is applied hot after which they are polished. This method was used by one craftsman with satisfactory results: After turning, the bowls were placed in a bath of melted paraffine wax without removing the face plate where they remained twelve hours, with enough heat to prevent hardening of the wax. They were then removed, placed in the lathe and polished by friction. Next pure olive oil was applied; then the bowls were sanded with fine sandpaper and polished again by friction. I believe some manufacturers make a clear lacquer which is used with safety on salad bowls.

Rugged Oak

COFFEE TABLE

BY DICK HUTCHINSON, Associate editor



It's big! dimensions are 20" wide x 34" long x 17" high.

EVEN though some workshoppers consider oak a hard wood to work—and perhaps it is with hand tools—we made this piece almost entirely on one of the new, lighter machines: an 8" bench saw and 4½" jointer combination.

With the exception of the legs and the pegs, all of the material used was ⅞" white oak. The legs are of 1⅛" oak, while the pegs were made from scraps.

Lay out and cut the boards for the table top from the ⅞" oak. In Fig. 1 are detailed the widths of the boards we used to make up the full 20" wide top. Any combination of widths may be used that will produce a piece 20" wide. However, at least six pieces should be used. Cut the pieces 5/16" wider to allow for the tongue, and for planing the edges. Run them over the jointer to smooth the edges. Then set up the saw with a ¼" dado and run the tongues and groves, as in Fig. 2. This can be done with the saw. However, the saw will have to be run through several times to make the width cuts required for the top.

Both ends of each board should be rounded on the disc sander, and the top and side corners of each board should be rounded, as indicated in Fig. 3.

Coat the tongue and groove with liquid glue. Assemble, and clamp with bar clamps to dry. Then make the two cross pieces as detailed in Fig. 1. Glue, and draw down tight with 1½" No. 6 F.H. wood screws. Next put a drop of glue in each end of each tongue and groove, and fill with fine oak saw-

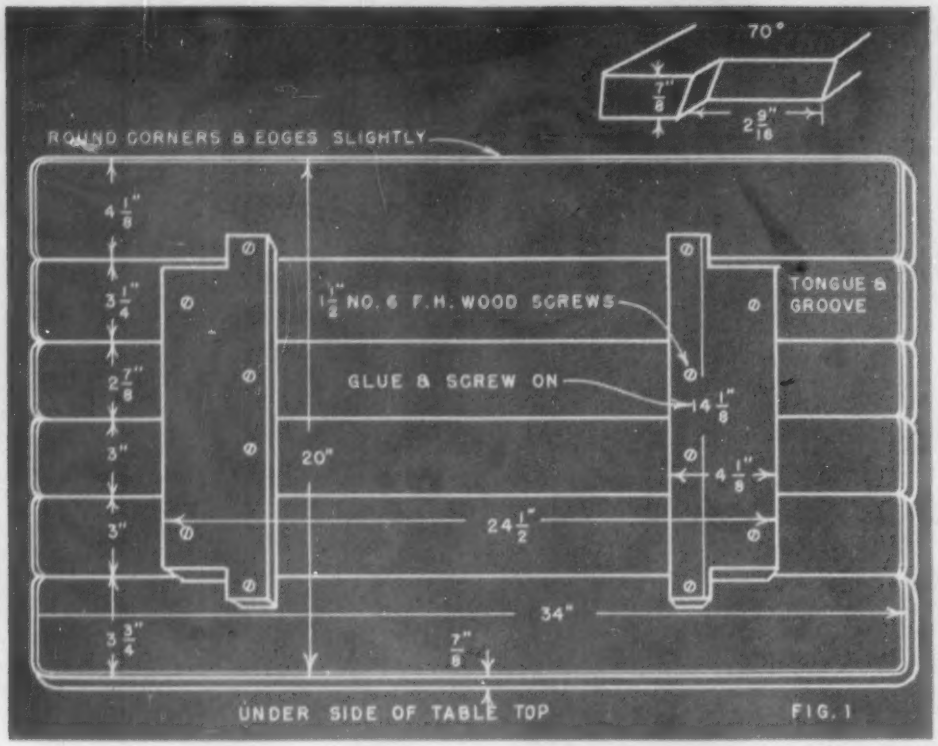
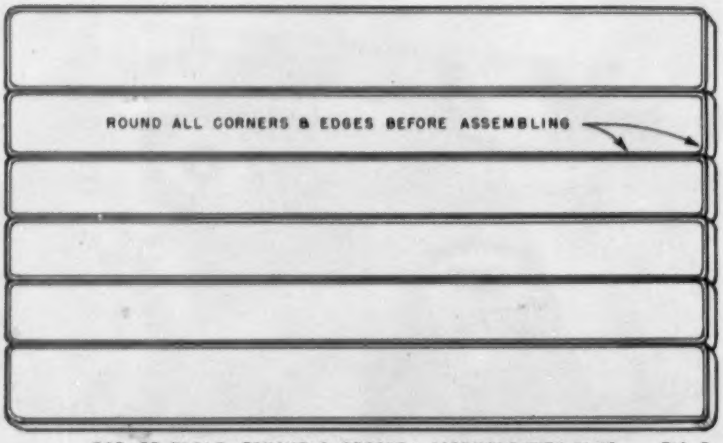


FIG. 1

Cutting the grooves on the light bench saw.



TOP OF TABLE, TONGUE & GROOVE ; ASSEMBLE WITH GLUE FIG. 3

dust, pressing it in tight. When dry, sand off and, if it is not filled evenly, repeat the operation. This will accomplish an even oak finish on the ends.

To have the legs all uniform in size make a ½" plywood jig, as shown in Fig. 4. Cut the 1⅛" oak into strips 2-9/16" wide x 17⅞" long. Set the pieces—one at a time—in the jig. Set the fence up to 4⅞" from the saw blade and run the pieces through, as shown in Fig. 5. Then set the miter gauge for a 70° cut for the top and the bottom of the legs. Run the pieces through with the straight sides next to the gauge. Next, make the notched cuts at the top of each leg (as shown in Fig. 6) through which the screws will be set for securing the legs to the table top. Tilt the saw and saw out for the stretcher, and chamfer the bottom of the legs on the disc sander.

Make the two sides for the frame as sketched in Fig. 6, and saw out the mortises on the jig saw. Tilt the saw to 70° and saw out the two end pieces for the frame, as in Fig. 7 (and detailed in Fig. 8). Cut the mortises on each end of each piece; chamfer. If mortising equipment is available, cut the ⅜" square mortises on the drill press. See Fig. 9. Or they may be drilled and sawed out on the jig saw.

Make the cross stretchers as shown in Fig. 8, dado-ing as shown for the center stretcher; make the center stretcher.

Assemble the two sets of legs with the cross stretchers, using glue and R.H. wood screws. These should be set so that they measure 14⅛" apart on the outside. Then make the four pegs (Fig. 6).

Apply glue to the top of each board and assemble the box frame; clamp tight, but do not drive the pegs in.

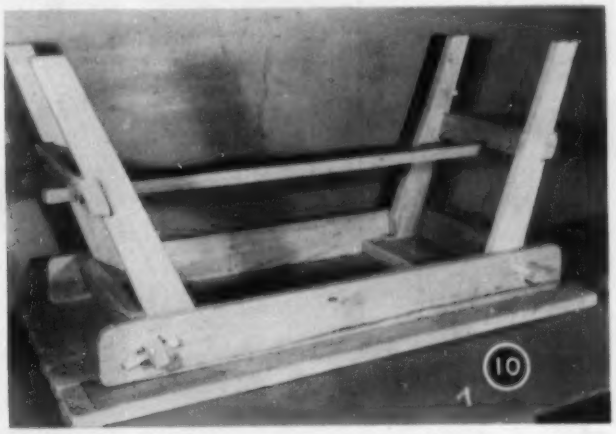
Sawing the tapered legs on the 8" Duro bench saw. Note the ½" plywood jig between the saw blade and fence.

Now, coat the tops of the legs—including 3" up the contact sides—and set in position, as indicated in drawing Fig. 6. Drive the screws in to hold firmly. Then drive the four pegs in tight to hold the assembly together.

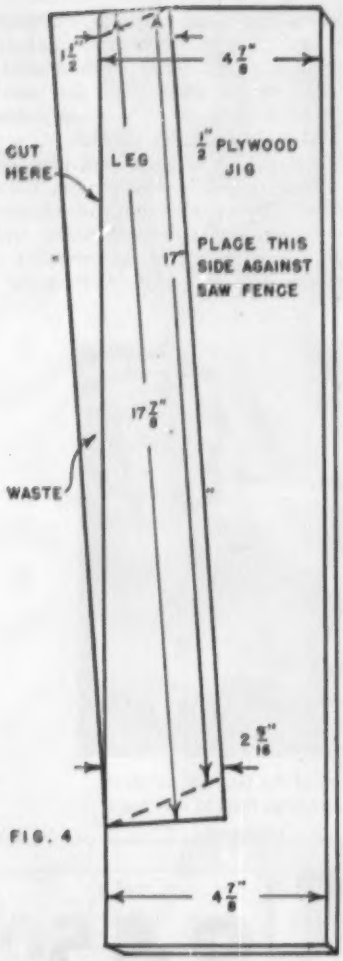
Next, apply glue and assemble the center stretcher, as shown in Fig. 10, using 2" No. 10 R. H. blued wood screws. Studying this picture, which shows the assembled table upside down, will help you to understand how the table is put together. Finally, set the two steel angle braces, one in the center on either side, on the underside of the table; secure with ¾" No. 8 R. H. wood screws. Figs. 11 and 12 show the completed blonde oak finished table.

Finishing: An oak filler may be used. However, we like the rugged design of this piece better without it. Sand as smooth as possible, finishing with 4/0 steel wool. After that apply two successive coats of white shellac, rubbing down well with the steel wool between coats. Then apply one coat of satin finishing varnish.

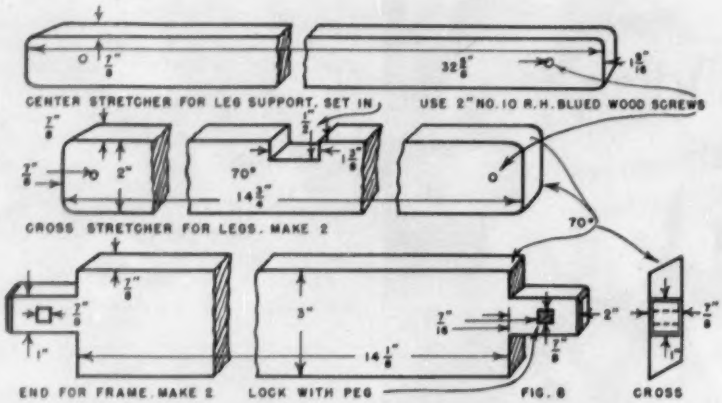
If a dark oak is preferred, proceed as above until the shellac has been applied. Then paint over with chocolate brown semi-gloss oil paint, and wipe dry immediately. Let dry for a day; brush on the satin finishing varnish.



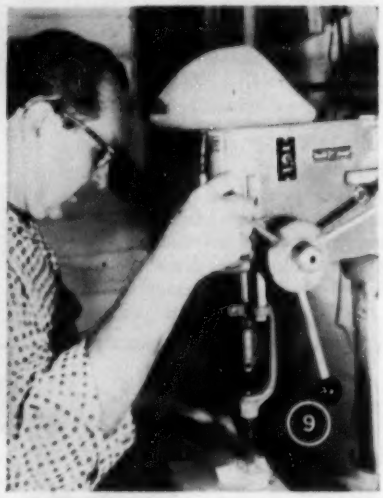
Upside down view showing how the tops of the legs are set down behind the cross support, making it impossible for them to work loose.



JIG FOR SAWING LEGS UNIFORMLY



Cutting the 70° angle bevel on one side of the frame and board. Both sides are cut at 70°. Note that, with this new Duro equipment, the motor does not tilt when the saw is tilted. The motor automatically slides over as the saw is tilted.



The mortising attachment set up on the drill press to cut fast and accurately the 3/8" mortises.

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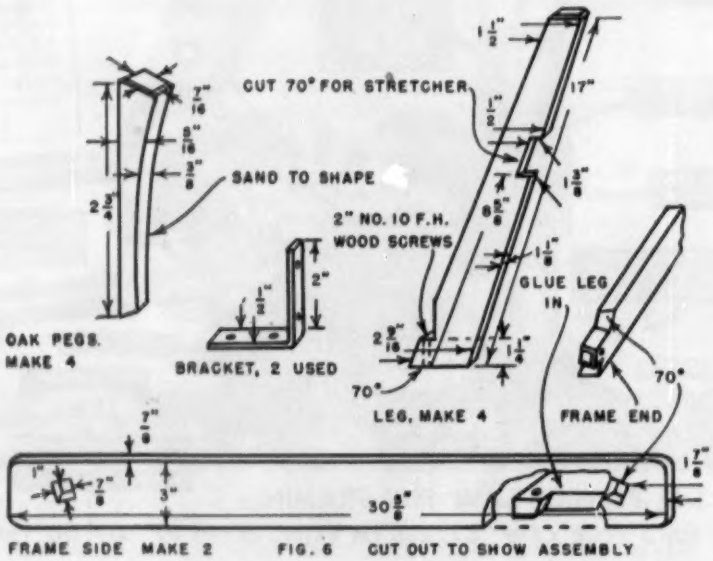


RANDOM QUESTIONS

Q. I have a 3" jaw bench vise which I want to use for holding small wood parts. As the regular iron jaws would mar the work I wonder if you would devise a pair of wood jaws to prevent this, jaws which I could insert and take out easily.

A. Having been in the same situation as you a while back the writer used auxiliary jaw facings of wood as illustrated in

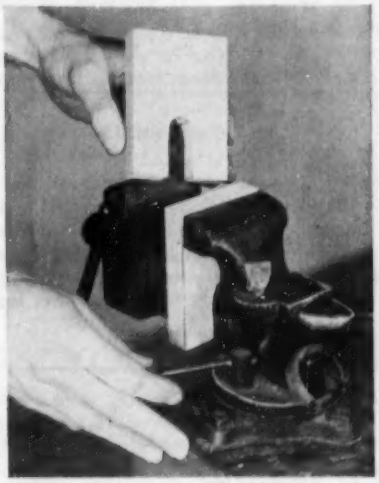


Photo 1—Auxiliary jaw facings of wood with notch.

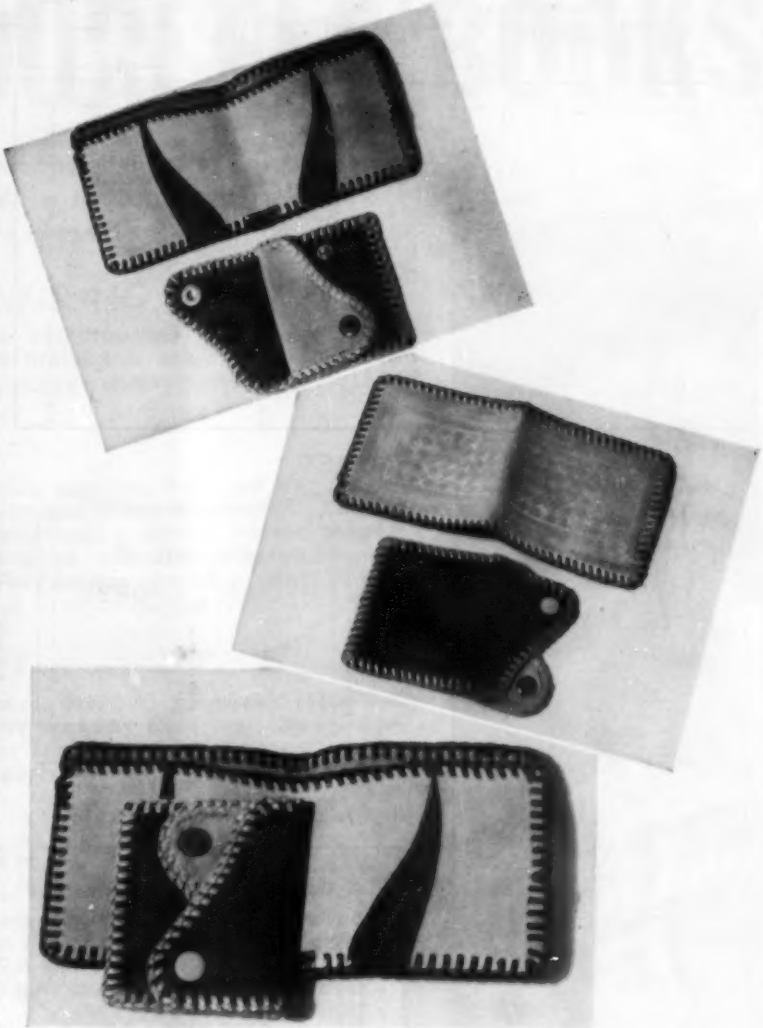
the accompanying photo. The notch simply saddles the sliding beam and screw arrangement on the vise which can be cut to fit practically any type of bench vise.

Q. I would like to put a new floor on the porch of my house. It is made of concrete. Is there any way I can do this without breaking away the old concrete?

A. A new material now on the market called "Stonhard Resurfacer" can be used to resurface any concrete floor and I believe it would do the job for you. It is easy to use as well as economical. Only four steps are required. 1—Sweep the dirt from the cement. 2—Paint the surface with primer. 3—Mix the Stonhard Resurfacer with cement, sand and water according to instructions. 4—Spread the mixture over the surface to a thickness of ½", feather-edging where necessary. Suggest you write to Stonhard Company, 1306 Spring Grade St., Philadelphia 23, Pa., for more information and the name of your nearest dealer.

Q. I have a walnut dining room suite which has quite a few scratches which are pretty noticeable. I would like to touch up these scratches without doing the entire suite over. Can you tell me how to do this and what to use?

A. If the scratches are light a good commercial scratch remover such as you can purchase in a paint store will cover them. Sometimes they can be removed with a little linseed oil. If the scratches are fairly deep try the following method: Apply a penetrating oil stain to the crack with a small brush. Wipe off and allow



Front, back—open, closed—always a sharp contrast of light and dark.

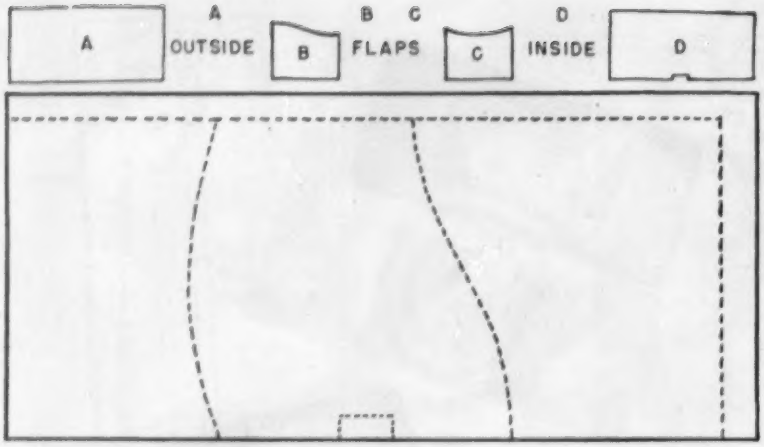
Wallet Twosome

By SIMON S. PALESTRANT

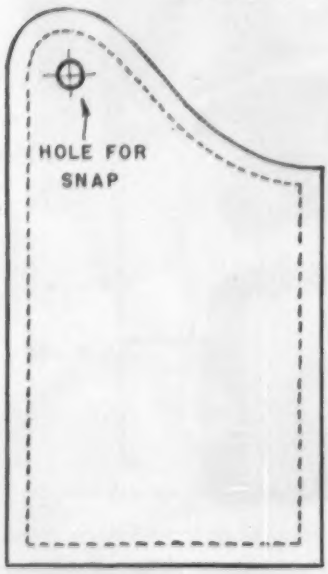
THIS two-tone wallet, made of a combination of neutral smooth cowhide with brown kid skin trim and lace, finished in bootmaker's stain, shows up in excellent contrast. The strong tonal selection makes the tooling stand out in bold relief.

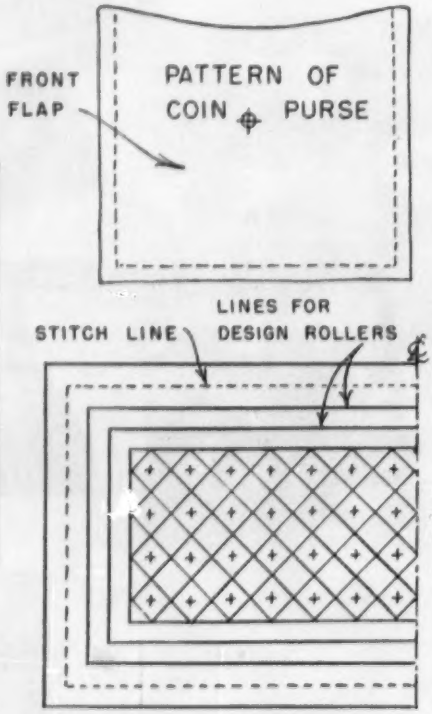
The coin purse is made of three pieces with off-center flaps. The dark leather on the outside is edged with a light lace. Button snaps of contrasting tone also are used.

The wallet is arranged so that the light leather makes up the inside and outside—set off by the dark leather card pockets. Dark brown kid skin lace, used to stitch this together, provides a sturdy looking finish.



PATTERNS OF WALLET





PATTERN FOR
COIN PURSE
ALTERNATE FLAP
PIECES ARE NEEDED
FOR THE PURSE

+ SPOTS INDICATED FOR BACK-
GROUND PUNCHES

The cover is decorated with an all-over repeated arrangement of an Arabesque design, set within bordered limits. Additional borders around this Arabesque may be applied with a decorative tooling wheel. The choice of background punches for filling in the boxed areas rests with the artisan.

The coin purse may be attached to the wallet by stitching the lace of the wallet to the lace of the purse at the points where they meet in the fold, but that is optional. In that manner they may be held together as a single unit, or they may be kept separate and still be a twosome.

BILL OF MATERIALS

1 piece of calf—7"x3¼"
1 piece of calf—6¾"x3"
2 pieces of calf—3"x2"
1 piece of calf—4¾"x3"
2 pieces of goat—3"x3"
1 piece of goat—5"x3"
1 piece of goat—3"x2½"
14 feet of dark lace
15 feet of light lace
2 snap fasteners

to dry twenty-four hours. Then apply a coat of the same material as was originally used. Dry and rub down with pumice stone and water or oil depending on the finish. Wax or furniture polish completes the finish. If the scratches are very deep they should be filled with stick shellac of a color that matches the finish.

Q. We operate a filling station seven miles from the nearest town. Several times our filling station has been broken into. Our house is too far away for us to hear burglars' noises at the station. Can you recommend a simple burglar alarm system?

A. I am sending you a catalog of burglar alarm supplies (A. W. Fruth & Co., 1874 Fremont St., Chicago 14, Ill.) from which you can pick out the parts I have used in the sketch shown below. A contact switch is installed at each window and door all connected in series as shown. A control box, which contains a relay, battery and day cutout switch is installed in the station or the house. A floor mat which rings a bell when it is stepped on if the station is unattended is also a good safeguard. This connection is shown; it uses the same battery as the burglar alarm.

Q. I have copper screens which turn dark near the bottom, causing a stain on the window sills. What can I do to prevent this stain?

A. Paint the copper screens with clear plastic of the type that comes in a pressure can.

LOOK FOR IT IN NEXT ISSUE

Frank Hegemeyer is back with a five-star workshop project.

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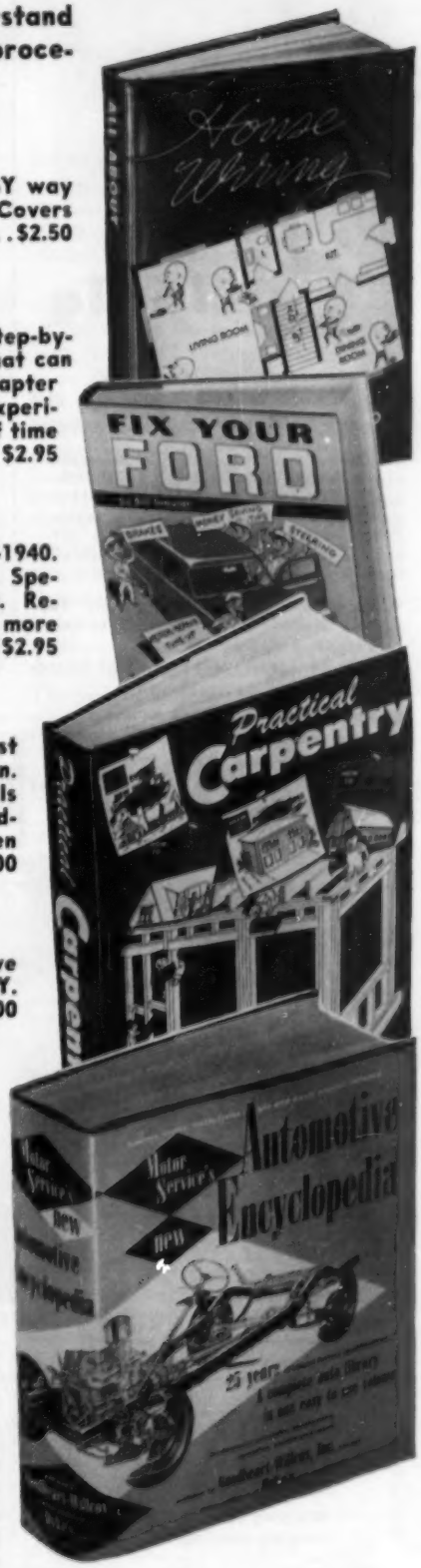

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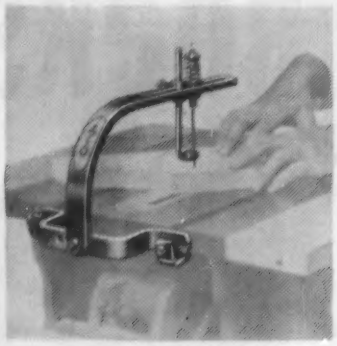

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Like to Work With Metal?

Look for "Brazier Dish and Scoop" in the July-August issue.

Working drawings, photo, step-by-step instructions.

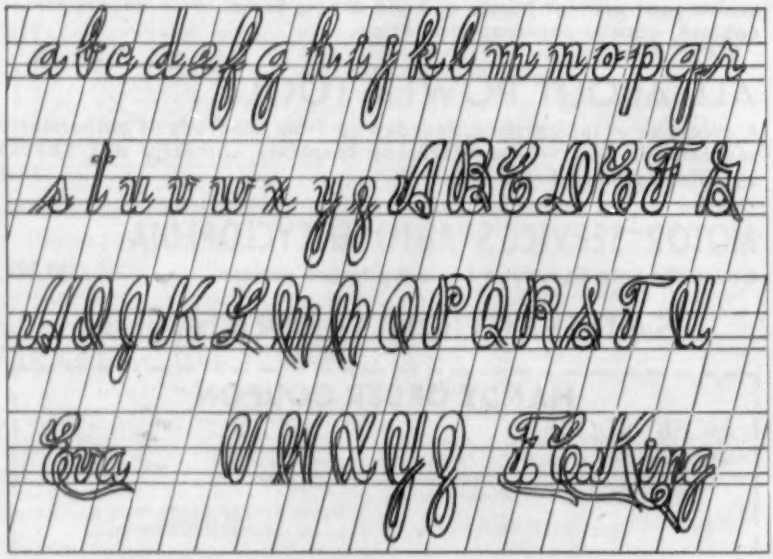
JIGSAWING

By F. OTIS PHAGANS
Contributing Editor

MANY novel uses for script lettering, done of wood on the jigsaw, can be found. Among them is ladies' name pins, desk names, and door or apartment names. The following suggestions will be of help to those wishing to do this type of work.

Script lettering can be sketched on the wood, or on paper or light colored cardboard and then affixed to the wood with small tacks or glue (rubber cement is preferred). Foundation lines for the letters first should be laid out according to the size of the letters.

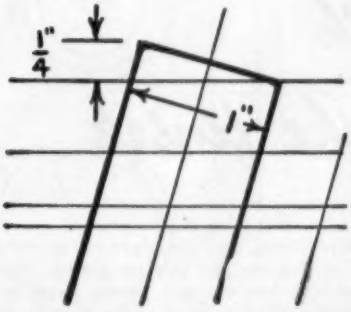
Note that the lower case letters should be half the height of the capital letters. This can vary, however. The base thickness line should be a quarter or slightly more, of the height of the small letters. Also note that the upstroke of the letters (as written by a pen) is slightly narrower than the downstroke, and that a double line for each letter is needed.



For some, it might be easier first to sketch the letters with a single line—and then fill in on each side of the single line to provide the double line

needed when cutting. The under bar and loop are both ornamental and utilitarian. They are a continuation of the capital letter except in the cases of F-P-T; in these cases an extra bar can be made as shown here:

The vertical lines are slanted to maintain a uniform slant on the letters as they are being sketched. Use a short sketching stroke when forming the letters "I" and "E", moving forward with short overlapping strokes to form a continuous line. The normal degree of slant can be obtained in the foundation layout by using a ruler one



inch wide, or a strip of cardboard one inch wide.

When sketching, do not use the vertical lines as spacers for the width of the letters, as obviously the letters "i" and "t" require less width than "m" or "w", for example.

The thickness of the wood should vary according to the height of the letters. One-inch high letters should be ⅛" thick or thereabouts; 1½" to 2" high should be ¼" thick. Six-inch high letters can use ⅜" to ½" thick stock.

In sketching and cutting, the entire lettering can be left connected where the letters touch (especially the small letters), or they may be cut separately. Make the small inside cuts first, then the larger inside cuts—and finally the outside cut.

The ladies' name pins shown in the photo have capital letters 1" high; they are contoured top to bottom on front. The lettering material is about ⅛" thick, is mixed color cedar; the background piece is ⅛" thick walnut, to which the pinback is attached near the top on back side. This background piece is cut at a 15° tilt of the saw table and follows the contour of the name outline. After cutting and contour sanding, the name and background are dipped in almost water-thin clear wood lacquer and allowed to dry about thirty minutes. A second dipping then is done and the lettering is set immediately on the background and allowed to dry.

The *E. N. Kerr* desk name is of white holly letters ⅛" thick and 1" high, mounted on ½" thick black walnut.

The *Troy D. Enos* name is made of ½" thick red and white cedar with

lettering 1½" high. Both are finished in natural color with clear wood lacquer. The first coat of finish was in almost water-thin lacquer, first dipped and later sprayed.

The *E. N. Kerr* lettering was dipped and allowed to dry, as was the background. The letter background was laid flat and sprayed. The letters were dipped a second time and set in the wet lacquer and allowed to dry. The letters won't come off.

The *Hopalong Cassidy* picture, which he now has, was done in a white holly disc ⅛" thick, the horses and riders are in red and white cedar, and the background and base are of red oak. Each spot in the picture was jigsawed out and then filled with walnut colored Plastic Wood and the finished article was sprayed with three coats of clear wood lacquer. The overall height is about 5".

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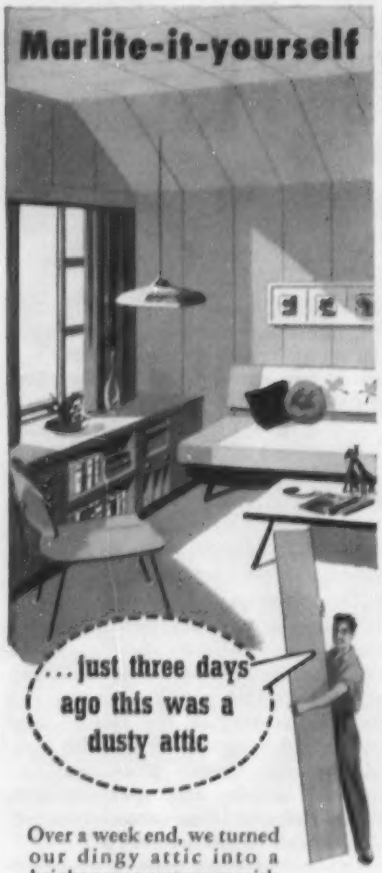

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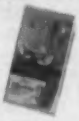

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WOOD LAMP

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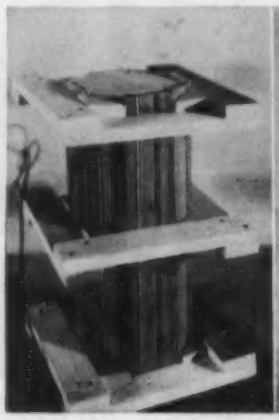
Ceramic-like finish

THE drawings give the necessary details for building this table lamp which features combed plywood. When finished it looks like a piece of ceramic ware.

Saw out the piece for the base from 1⅜" white pine. Set it up in the lathe and turn as illustrated. Saw out the center on the jig saw and, using a coping saw, cut out for the three legs. Drill the 7/16" hole through which the lamp is to be wired. Then cut and turn the base insert from ¾" white pine. See drawing.

The staves are cut from ¼" combed fir plywood, and the edges are beveled 67½ degrees for proper gluing. Saw out the two octagon pieces from ¾" pine, according to the drawing, to fit in the ends of the column. Now build three frames 4⅜" square inside, from ½" pine. Then cut twelve triangular blocks from ¾" pine. These should measure 1¼" on two sides, by 1¾" on the face.

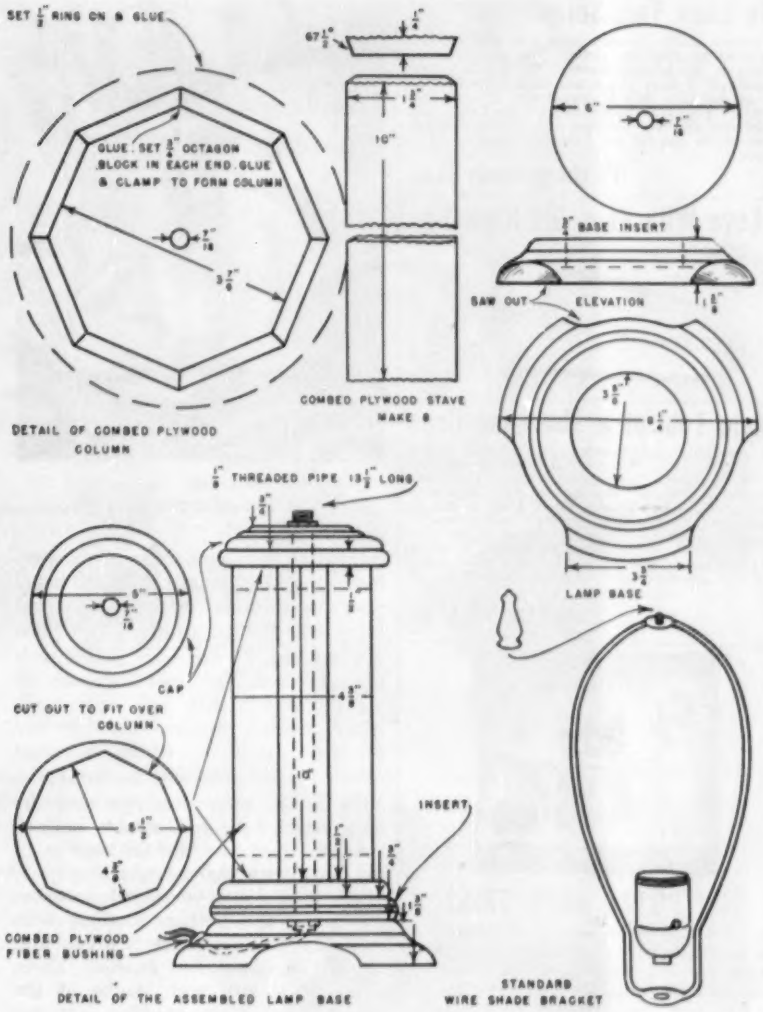
Coat the edges of each of the staves and the edges of the two octagon inserts with liquid glue. Set up the column as shown, with one of the blocks in each end to support the

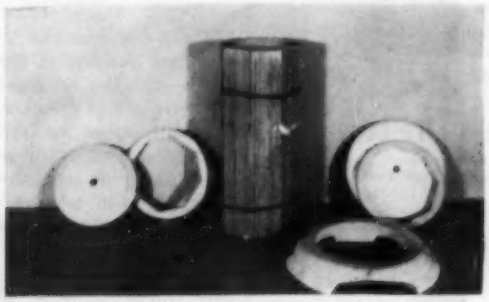


Column clamped for drying. Note how clamps are made and applied.

The assembled lamp base before painting. Note the tight jointing.

Assembled base before wiring. Note blending of colors in column.





All made and ready to assemble. Column held together with rubber bands for this picture.

column from inside. Slip the three frames down over the assembly. Then wedge one of the triangular blocks in each corner. If they do not fit tight, wedge them in with small pieces of cardboard in each corner. When dry, remove the clamp frames and sand both ends square and even.

Cut, and turn on the lathe the two ½" thick hardwood rings, and saw out the octagonal centers to fit over the ends of the column. Coat the inside of each ring with glue, and fit on.

Turn the cap from ¾" pine. Coat the contact surface with glue, and

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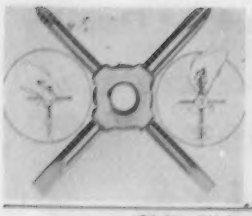


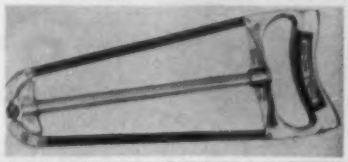
Even My Wife Likes This Screwdriver

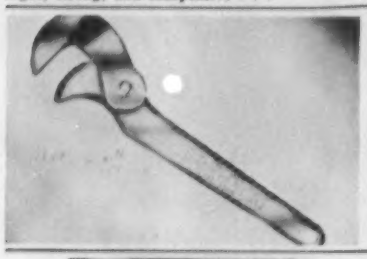
Frankly, she doesn't know a claw hammer from a jack plane. But she sure knows she likes *my* Phil Uni Drive. The one that *used* to be mine she keeps in the kitchen drawer. So I had to get another for my workshop. I want to get one more now—for the glove compartment of my car. It's 4 screwdrivers in one, and a darned practical deal. Two are Phillips recessed head type, and two are flat screwdrivers; all four different sizes. This arrangement gives extra leverage; it also let you "spin" a screw out fast. I really like this gadget.

It's cheap—only $1.00

Skip This If You're In Love With Your Old Hack Saw

. . . because this Double Hac-Saw is *two* hack saws in one frame—a fine blade for light work, and (without changing blades) a coarse blade for the heavier cutting. It makes cleaner, more accurate cuts without wobbling or fear of snapping. Keen cutting characteristics come from the tight-as-a-drum blade tension which is not possible on the old fashioned kind of frame. The trick is in the frame design and the single locking nut. Extra blades can be stored in the hollow frame. Cuts a full 5" diameter. All metal. Light, strong, and inexpensive . . . **$5.00**





Simple Tool of a Thousand Uses

Most workshoppers have more wrenches than they'll ever need. I do. But when I came across this new Ply Wrench I said, "That's for me!" I like it because I can get into places with it that I usually skin my knuckles on when I use a regular wrench. It has a terrific gripping power and a three-sided pull. Automatically adjusts to any size from ⅛" to 1⅛". Measures 7" overall. I use it now more than I do any of the regular wrenches which cost me three times as much, because it's so much faster and easier.

Worth more than its $1.29

Adjustable Angle Jig for Circular Table Saws

Every table saw owner *needs* one or more of these Adjustable Angle Jigs with steel protractor. Protractor eliminates need for ruler. Indispensable for making accurate angle cuts. No clamps or bolts to fasten. Glides along the table fence, carrying the wood with it. Will cut a true, precise taper. Also will taper 1, 2, 3 or 4 sides. 12" length cuts 0° to 23°, and tapers 0" to 4½"; 15" length cuts angle 0° to 24°, and tapers 0" to 6". Made of hard maple with cadmium-coated steel rust-proof clamps.

Priced at $2.95 for 12"; $3.45 for 15"

YOU GOTTA HAVE THIS!

If you're like me about your ¼" electric drill you use it for everything. Believe me, I do. Even my wife uses it—largely for polishing. I have just about every ¼" drill attachment made—but the one I use most now is the newest one, this Lyndane Sanding Drum Kit. What a labor saver! With it, there's hardly an interior curved surface you can't sand by power now. Man, that's *really* something. The Kit includes 4 sanding drums (¾"-1"-1½"-2") and 8 sanding drum sleeves. Those sizes have met all my needs completely. *This* part you'll like too—

The whole kit costs only $3.98

Take It Easy Chum; You'll Live Longer

Hauling nails out of wood the old way is rough on the bursitis. It just about kills me. But this Cat's Paw Nail Puller is the cat's something-or-other. Not only does it make pulling even the big nails easy, but it saves scarring the wood unnecessarily. You can get in tight corners where a hammer won't fit, and you can work just about twice as fast. That spoon-shaped head is what does the trick. It slides under the nail head nice and easy and rocks it out just as easy as that ol' rocking chair. Light weight, 12" long, and oh, so tough.

You can't go wrong for only $1.50

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Fitting the rings over the ends of the octagonal column.

complete the assembly, as shown. Insert the 13½" length of ⅛" threaded pipe up through the center of the lamp, and tighten with ⅛" hex nuts.

When dry, fill any open places with Plastic Wood. Then sand smooth all over, finishing with fine steel wool. After this all exposed surfaces are given a coat of flat white, or cream color oil paint, and left to dry.

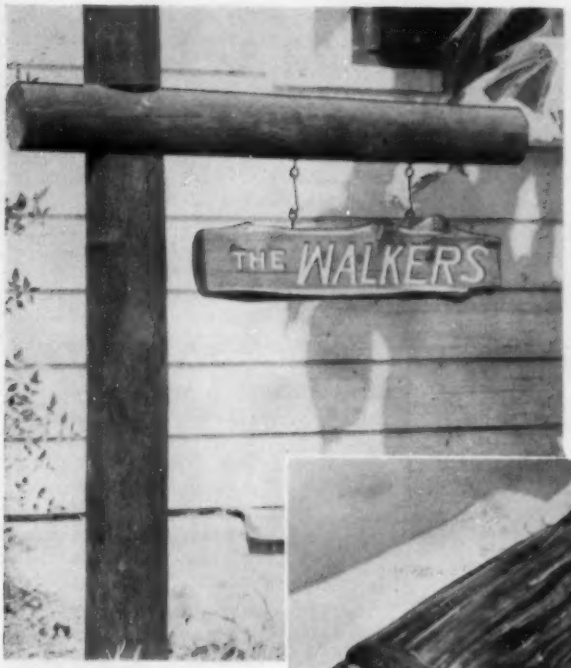
To finish, paint the cap and the base insert with good cream enamel, the two rings and the top section of the base with maroon. Add a bit of black to make a very dark maroon, and paint the bottom sections with this. The column itself is given first a coat of blood red enamel. Then, while it is still wet, daubs of the cream enamel are blended into the red. This is done by blending the cream color up and down over the fluted surface—with a soft brush—until the desired effect is obtained.

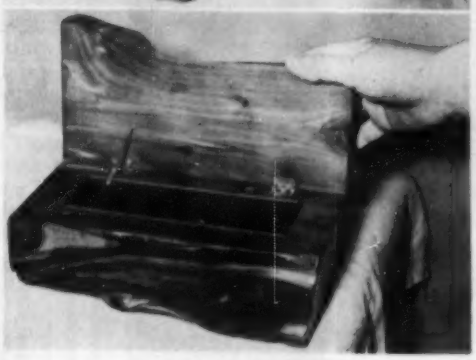
When dry, run the wire in through the fiber bushing in the base and on up through the ⅛" pipe. After setting the wire shade bracket over the top end of the pipe, attach the wires to a push plug socket and screw onto the top of the pipe to secure.

Shades to match this type lamp are readily available. The red and cream colored one shown in the photograph of the finished lamp blends beautifully with the coloring of the lamp. Any combination of colors may be applied in the same manner as described above. It's just a matter of taste.

Thinking of Peg-Board?

The next issue will tell you some good pointers on paneling with this versatile material. Photos, drawings, "the works."





Red cedar makes good whittling wood. A beginner can make these novelties from an old log found in the forest: Above: Outdoor marker. Right: Small cedar chest, opened and closed.

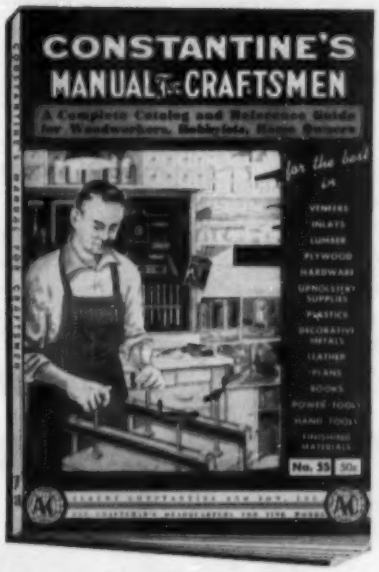
Red Cedar:
GOOD WHITTLING WOOD

BY LAURENCE C. WALKER

BATON ROUGE. When you hear the name, you probably think of the capital of Louisiana. But this French way of saying *red stick* has an earlier history in the new world than the founding of that Mississippi River town.

The words were used to describe a reddish-colored easily-whittled wood found by Louis XVI's migrant settlers in Canada. Then, when these hardy men migrated two thousand miles southward and found *baton rouge* trees growing on the bayou banks, they christened their new city by that name.

WOODS



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What the Frenchmen called *baton rouge*, we call red cedar. (The Frenchmen were more correct, since red cedar really is a juniper, *Juniperus virginiana*, to the forester.)

Now, if you are looking for a gift that's original and yet inexpensive, you should be interested in red cedar. Anyone can whittle in this wood. Consider the accompanying illustrations. They show first-trial carvings by an amateur whittler.

The cedar chest is from an old log, still fragrant and colorful after years of seasoning in the forest. Most of the white sapwood had decayed, but the red heartwood is durable—lasting for ages even when in contact with moist soil. Note the fluted grooves and the many tight knots which add a rustic touch. Having removed the "lid", using a rip saw, the cavity was hollowed out with a small wood chisel. Brass hinges and a chain were installed, and interior and outside sanded smooth. Felt is added for protection to jewelry (if you use the chest for that), and then several coats of paste wax are rubbed in to help preserve the color.

Choose finish carefully

Varnish and shellac are frowned on for two reasons: the aroma is sealed in, and the natural dull finish is preferred to the glossy surface attained with coating. For outdoor use, such as the sign, five or six coats of varnish are recommended for preserving color.

Lots of reasons are apparent why red cedar is so useful for practicing wood-whittling. It has long been admired for its reddish bark; and as wood which changes from bright red or even purplish, when first cut, to a dull red on seasoning. Light streaks, occurring here and there, serve to break the monotony of a solid color pattern and give an unmatched beauty to the wood.

In addition to its colorful beauty, red cedar wood imparts a pleasantly fragrant aroma which is preserved for tens of years after cutting. For this reason, it often is used for lining chests and closets.

Soft, good for whittling

Structurally, too, the timber is good for whittling. It is of soft texture, moderately weak, moderately heavy, and shrinks but little during seasoning. The grain is fine and compact, usually due to slow growth. It is uniform and straight except where deflected around knots. A thin layer of white sapwood surrounds the red heartwood. In the heartwood are thin rays of ribbon-shaped strands extending radially across the grain. These rays are darker than the background and, on the quarter-surface, form a neat low fleck.

Growth rings are distinct, each delineated by a relatively narrow band of dark red summer wood and a lighter colored, wider zone of spring growth. These annual rings are not the same width all the way around the tree. Hence the outer surface appears fluted or grooved.

Unlike most evergreen softwoods (red cedar is not a conifer, since it bears berries rather than cones), resin cannot "gum up the works," for there are no ducts to secrete sticky substances. However, a dark gummy material is found in strands of living tissue in the sapwood and in the heartwood ribbon-like ray cells. Fortunately, that gum is gelatinous; it stays in those cells. Finally, these structural attributes enable red cedar wood to be worked easily with tools and to take a high polish.

So, get a piece of red cedar and give whittling a try.

OOPS! WATCH YOUR STEP!!

Mr. Nicholas Stumpf, who did such a fine job of "Do it yourself but do it safely" in this issue, next issue will tell you how to avoid the biggest booby trap of them all—the step ladder.

New saw with safety clutch can't stall, can't kick back!

Any job's a *safer* job with this new, low-priced Porter-Cable Saw. Exclusive Kickproof Safety Clutch protects against motor burnout and dangerous "kickback"—telescoping guard exposes teeth only where actually cutting. A Porter-Cable *quality* tool throughout—rugged, smooth-running, built to last. Light, handy—a honey for heft and balance, a bear for work. See it soon!

MODEL 125

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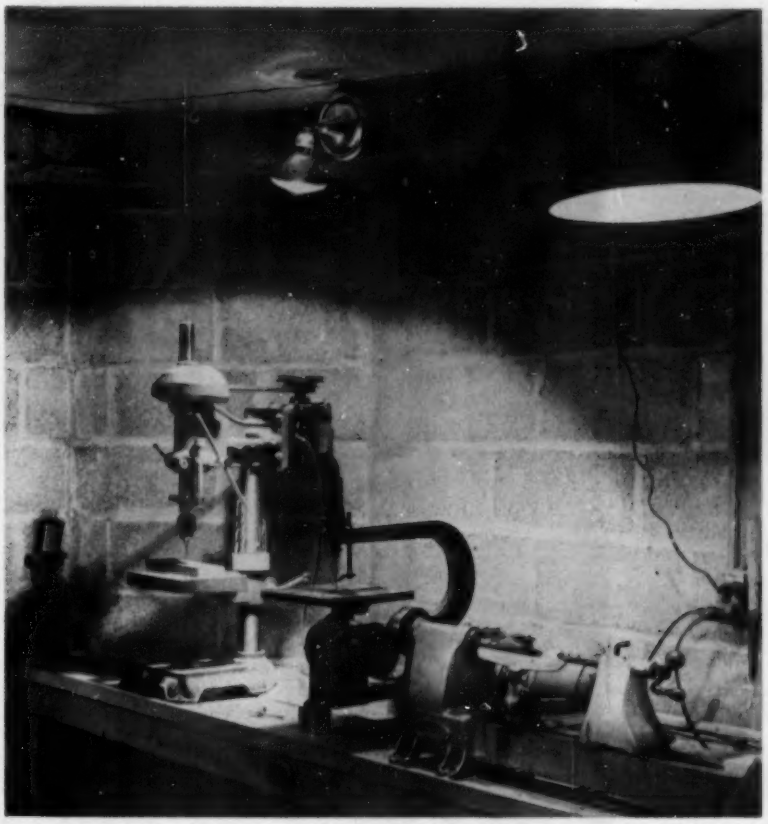

Flexible lighting is simply rigged up with portable deep reflector, 150-watt inside white bowl lamp, 55 foot candles; hung by eyelet on ceiling attached wire. Lamp easily moved to work locations. R-40 spot lamp is positioned to supply over 400 footcandles at drill press.

ADEQUATE WIRING IN THE HOME WORKSHOP

HAVE you ever looked longingly into the window of your local hardware store, at their display of new power tools, and brought home a new power saw only to find that plugging it in meant short-circuiting all the lights in the house? This already has happened to millions of your neighbors all over the United States whose wiring was installed ten or more years ago, and your turn may be next.

How can old-fashioned, antiquated wiring prevent you from installing the modern appliances and tools that you've always wanted? According to data supplied by the National Adequate Wiring Bureau, residential consumption of electricity has increased so rapidly during the past fifteen years that our already overburdened electrical systems no longer are able to carry today's electrical load.

This situation prevails in the overwhelming majority of American homes, and means not only inconvenience for the home owner in not being able to install new electrical equipment, but increased danger of electrical fires. Approximately 75,000 fires a year accounting for a property loss of $82,500,000 are caused by faulty wiring, defective appliances, and misuse of wiring and electrical equipment.

The electrical system of your home can be compared with the system of pipes which distribute water through your house. The point at which water is conducted to the house from the outside source is comparable to the point of entrance where electricity from public lines enters the home. The smaller pipes which lead the water from the main source to the different areas of the house can be compared to the electric circuits, which take incoming electric power and distribute it to the different parts of the home. Electrical outlets are analogous to water taps and faucets.

As we all know, when a number of faucets fed by the same pipe are turned on simultaneously, water can only trickle out through these faucets. Similarly, when too many appliances on the same circuit are in operation at the same time, electricity can only trickle through to them, meaning inefficient and costly operation.

Because of the danger of electrical fires, every circuit is provided with a "safety valve"—the fuse or circuit breaker. Since too many appliances on the line will cause the wires to overheat, these protective devices are designed to cut off the flow of electricity through the circuit until the cause of the overload has been removed. Each blown fuse or tripped circuit is equal to a prevented fire.

In order to insure the safe and steady flow of electricity through the house and the efficient operation of electrical apparatus, consideration should be given to the placement, distribution and number of circuits.

If you are fortunate enough to be building your own home, or if you are planning a re-wiring job, you may be interested in the following recommendations of the National Association of Home Builders. In a proposed voluntary standard for electrical service entrance, the NAHB recommends that at least two spare circuits be provided as follows:

a. One to an accessible location in the attic, the other to an accessible location below the first floor, or

b. Both to accessible locations either in the attic or below the first floor, or

THESE ARE THE CURRENT BEST-SELLERS AMONG WORKSHOP BOOKS

(904) **ALL ABOUT HOUSE WIRING**—New how-to-do-it book covers all phases of modern house wiring. Takes "mystery" out of house wiring. Tells how to determine exactly what wiring is needed; shows in 192 crystal clear drawings. Easy way to do all kinds of wiring jobs in both new and old homes. (Goodheart) **$2.50**

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(521) **BOOK CASES**—Book cases and shelves, magazine and book racks, book ends. Walnut, mahogany, birch, other woods. (Hobby Books) **$1.00**

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(553) **HOW TO BUILD MODERN KITCHEN CABINETS**—With this book you can build a single unit or any combination of units. Floor and wall models to fit every layout. Complete drawings, instructions and lumber cutting lists. How to plan the remodeling work, select hardware, install each cabinet. (Craftsmen) **$2.00**

(556) **WALT'S WORKSHOP**—Durbahn: 52 projects for the workshop, home, garden. Easy-to-follow diagrams. Text in clear, non-technical language. Illustrated. (General) **$1.00**

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c. If slab construction, one to the attic and one to the equipment wall in the kitchen, *and* if both slab and beam and plank ceiling, then both to equipment walls in the kitchen or elsewhere in the house.

These provide for the heavy duty future circuits necessary for "added later" air conditioning, ranges, room coolers, dryers, home freezers, etc.

If there is an attached garage, run one (spare circuit) to an accessible location in the garage. This provides for use of power tools, home freezers, or laundry equipment in the garage.

The point stressed by the NAHB is that for the home workshop to operate safely and effectively, a separate circuit to serve it should be provided.

Adding a new dimension of safety and convenience to the electrical system of the home are circuit breakers, the modern invention that is making the fuse look as obsolete as the "Model T." The convenience of circuit breaker installations is one of its outstanding features. With circuit breakers there no longer is any need to change fuses. Unlike fuses, which in operating destroy themselves, circuit breakers never wear out, never have to be replaced, and never can fail in their protective function. The original installation will last the life-time of the house, and will offer completely fool-proof protection against electrical fires and failures.

In planning the electrical set-up of the home workshop, equal attention should be paid to the problem of providing adequate lighting. Since most workshops are located in basement or garage space, natural lighting conditions usually are quite poor. Therefore, good lighting for both day and night use must be provided.

Typical circuit breaker panel box provides twelve circuits to serve the various areas of the home. Note circuit directory for identifying home workship switch. At least one circuit should be set aside for the workship to insure safe and efficient operation of tools.

By
RICHARD
GARLAND

WORKSHOP-FOR-PROFIT IDEA

This rather unusual planter project has been laid out for workshop production, utilizing wood and aluminum. Its attractiveness makes it especially salable, and the procedures described here save time and materials for the profit-conscious.

CACTUS PLANTER

AN attractive and appropriate planter for the smaller varieties of cactus can be made from aluminum and wood. Cacti and the "West" are synonymous, hence the bit of "Western" atmosphere.

All that is needed to make one, having a jigsaw and the usual shop tools, is about a dollar's worth of material. However, should a number of them be made to sell, templates cut from ⅛" plywood would require a small additional cost. For a single planter a cardboard template is sufficient. The designs can be originated to suit one's choice, and the one illustrated here is just a suggestion.

Pattern 1 is the foreground figure, pattern 2 the background. Both are cut from Reynolds sheet aluminum, .025 gauge, half-hard grade; a piece 9" x 14½" is required. The bracket—pattern 3—is cut from an eleven-inch length of 1 x 10 white pine stock

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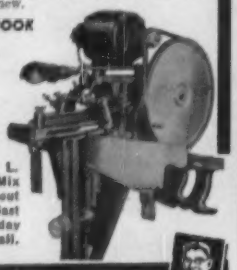

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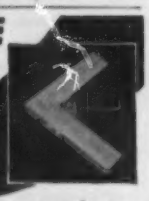

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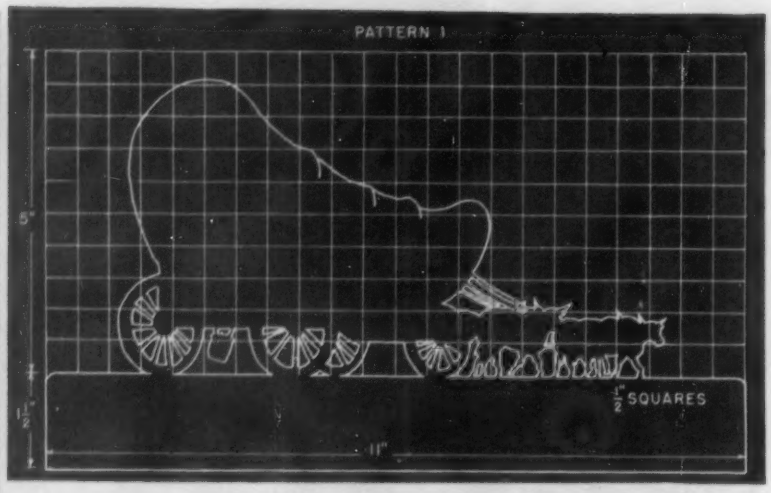
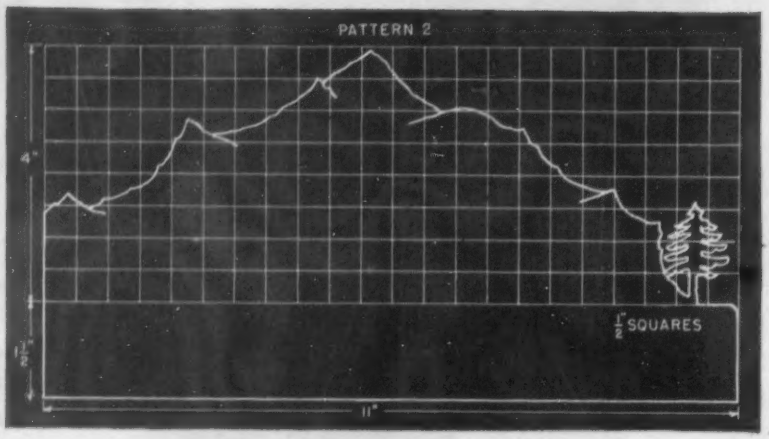
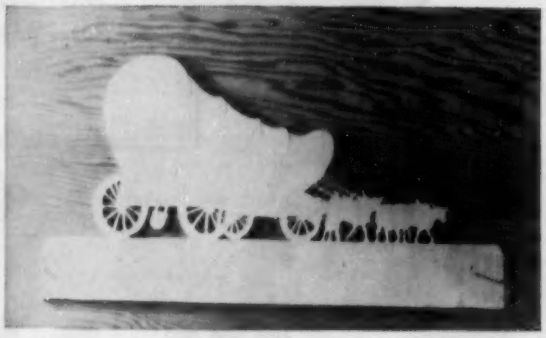
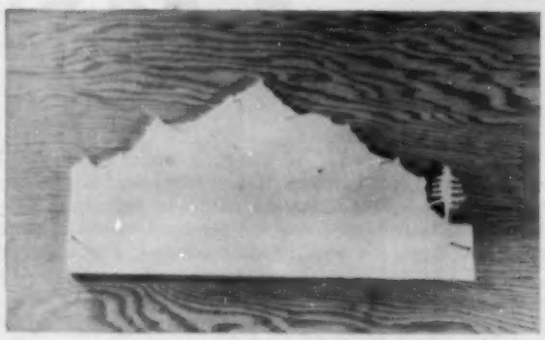
Next issue tells how to make your own water skis. A fine summertime project. It's reasonably easy, too.

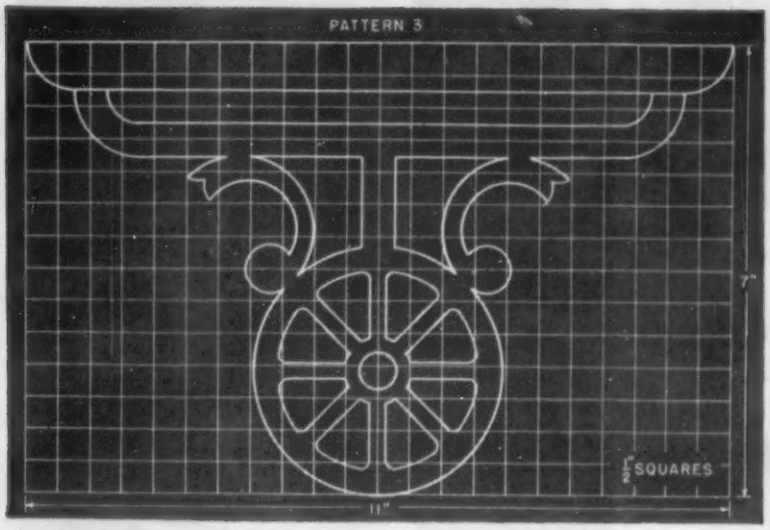


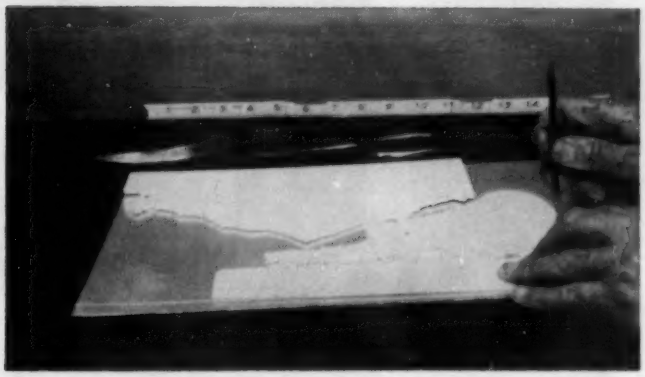




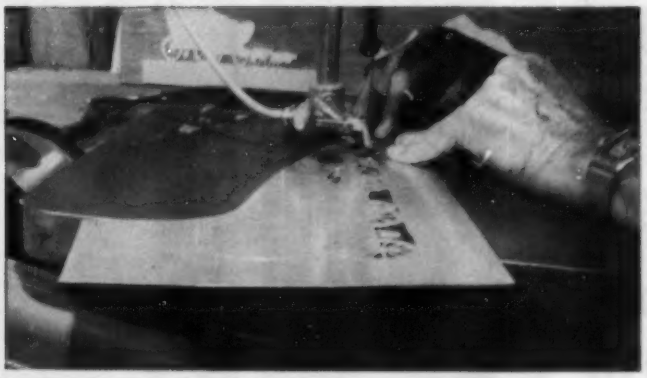


TEMPLATES: For tracing on aluminum, templates are needed. Those cut from ⅛" plywood are very satisfactory and will retain a smooth outline indefinitely.





Having made the templates, mark off ½" width on one long side of the aluminum. This is for the pot holder. Then trace pattern outlines, using a sharp-pointed scriber. An old ice pick or heavy wire make a good one.



Drill small holes for inside cutouts and file off backs. Separate the two patterns, then saw out inside cuts first. Cut narrow parts carefully. Go slow; make several cuts, not one continuous round. Back up for sharp corners, coming back later.

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Saw around the outside. Do not force the saw. (Use fine jeweler's blades.) Keep hold-down lowered but loose enough to turn easily. Smooth any rough edges and scratches with fine emery cloth. Paint will cover any marks left.

After tracing bracket pattern on wood, saw it out. Using a wood bracket not only gives rigidity to pot holder, it adds depth to completed planter and allows for additional background—instead of the usual plain silhouette effect.

Mark off ¾" at bottom of cutouts (width of bracket); clamp in vise between metal or wooden strips, with clamps at each end. Working back and forth, using thumbs, bend to right angle. Pattern 1 flange turns back; pattern 2 forward.

Using ½" strip of aluminum previously cut, center it. Mark 2½" from each end and bend sharply to 60 degrees. Bend strip around 3" flower pot to form pot holder. Bend ends around dowel. Drill holes for screws in middle of ends.

Drill four matching screw holes in flanges of foreground and background figures, and one hole in middle of background figure to act as hanger on brad in wall. Center pot holder; screw tight after fastening main figures in place.

(no knots). The cutouts are fastened to the bracket with four round-head ½" screws; two more are needed for the pot holder.

PAINTING: A flat black paint, such as Valspar, answers the purpose for the foreground figure. Flat white paint colored with oil color to a suitable shade of green makes an excellent mountain background. Besides, it is not shiny. However, a truly remarkable effect can be obtained if both parts of the planter are painted in natural colors, as an artist would do it. The bracket part is a flat black although, if made of a fine hardwood, it could take a fine finish to match the furniture.

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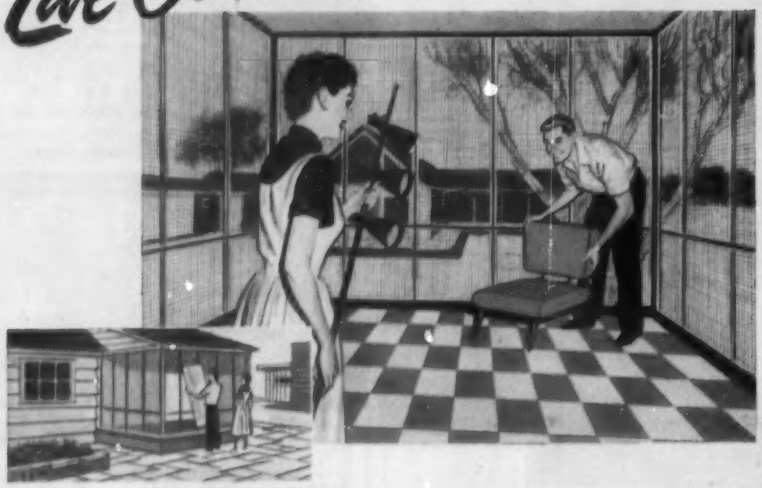

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PAUL MacALISTER'S

"CAPSULE HOUSE"

FULL OF INGENIOUS IDEAS

Made His Own Workshop Floor Panels

YOU'RE going to see and hear a lot about "Capsule House" which Paul R. MacAlister of Lake Bluff, Illinois, has been developing for the past several years. Into it he is incorporating many of the pet ideas and projects his fertile brain had been dreaming up over a period of years. It is his hobby and consuming interest.

Not the most glamorous of his many product adaptations, but surely a highly practical one, is his use of Masonite for the floor of his very fine workshop.

Procedural Instructions

Inspection of Sub-Floor: The sub-floor should be carefully inspected to see that it is flat and solid with no cupped or loose boards, is thoroughly dry and that all nails are flush with the surface. If the installation is over an old wood floor, the base shoe should be removed. Any large gaps or low portions should be filled and high spots sanded down.

Preliminary Work: Immediately prior to application, clean the floor to remove all dust and dirt. The panels should be cut to the desired size and the exposed edges slightly beveled or rounded with a carpenter's plane, sandpaper, or a special hardboard beveling tool. Before applying

For his workshop in "Capsule House," its designer, Paul R. MacAlister, installed a floor of Masonite ¼" Tempered Presdwood. One of the preliminary steps was cutting the panels to size, following a planned pattern, and then slightly bevelling the exposed edges. Here MacAlister is beveling with a carpenter's plane.

Having prepared the panels and the underflooring, MacAlister places one of the flooring pieces in position over the mastic. First he had scrubbed the backs of the panels with cold water and stacked them for 24 hours, back to back. He had then laid a 40-pound asphalt saturated felt. Then followed the mastic which he applied with a saw tooth trowel.

With the boards in place, MacAlister nails square blocks at the panel intersections to anchor them while the mastic dries—overnight. The mottled appearance is caused by the pre-expansion treatment. It disappears as soon as the water has evaporated.

The completed floor, sealed and wax-coated, presents a pleasing appearance. The homemaker is shown in her gardening section of the workshop. A Tempered Presdwood floor is ideal for workshop areas because it absorbs an unusual amount of wear without damage or great change in appearance.

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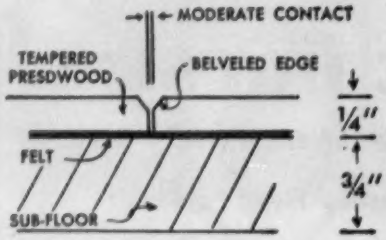
the Tempered Presdwood, thoroughly wet the panels by scrubbing cold water into their screen side with a stiff broom until it turns a very dark chocolate brown color. Stack the panels screen side to screen side, cover with a tarpaulin, and allow to stand for at least 24 hours prior to application. When ready to apply, wipe off excess water and install the panels immediately.

Application: Over the sub-floor lay with butt edges a 40 pound asphalt saturated felt with all cross joints staggered. If the Masonite Tempered Presdwood is to be applied with an adhesive, the felt should be fastened to the sub-floor with a water soluble linoleum cement.

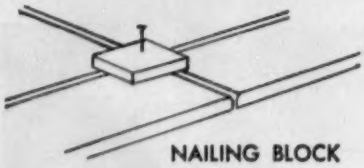


JOINT

With a chalk line, mark the center line of the room in both directions. Starting in the center of the room using the chalk line marks as a guide, apply Masonite 1/4" Tempered Presdwood in panels no larger than 4' x 4'. All fractional parts of panels that are required to balance width or length of room should be installed last. The panels should be brought to moderate contact, never forced into place. Allow a space of 1/8" between the wall or base and the Masonite Tempered Presdwood. Care should be taken to insure proper fitting of panels around walls, fixtures, etc.

Adhesive: When applying Tempered Presdwood with an adhesive, the Presdwood should be held flat by applying weights such as sand bags or by the use of temporary nailing blocks. If blocks are used, a sufficient number (one 1½ inch square block for each intersection of four boards) should be prepared before the floor is laid. These may be made from Tempered Presdwood or wood. In the center of the block, insert one 2d box nail driven partially through the block.

SPREADING ADHESIVE WITH SAW TOOTH TROWEL



NAILING BLOCK

Starting in the center of the room, spread waterproof rubber base flooring adhesive over the felt with a standard saw tooth trowel. Place panels in proper position and fasten by nailing the 1½ inch square blocks at the point where each four panels intersect. Nails in nailing blocks should be driven tight to insure solid contact of flooring to adhesive. Nailing blocks should remain in place overnight, after which time they may be removed.

Nailing: The Tempered Presdwood floor should be nailed directly over the sub-floor with 2d cement coated casing nails. Nails should be spaced 12 inches apart through the body of the board, 6 inches apart around the edges, and no closer than ⅜ inch to the edges of the panel.

Nailing should start in the center of the panel, working toward the edges, after which the edges and corners should be nailed.

Finishing: For an attractive natural finish, first apply a penetrating sealer. If a colored floor is desired, a colored penetrating sealer, color-in-oil added to a clear penetrating sealer, or a high grade deck paint may be used.

To finish the floor, first remove all dust and dirt from its surface. Apply the sealer or paint in accordance with the manufacturer's recommendations. The sealer application may be followed by a coat of a high quality non-slip wax.

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Birch and Walnut

DINING-DINETTE TABLE

By MITCH PIERONEK

THIS birch and walnut dining dinette table accents on the natural beauty of wood, the practicality of wrought iron, and simplicity of design. Sturdy construction, easy maintenance and moderate construction costs help enhance the appeal of this project.

Plane five pieces of birch, 4′ x 5½″ x 1¼″ to perfect evenness along all edges. Do the same with four pieces of walnut, 4′ x ½″ x 1¼″. It was done with an electric planer in this case, but the wood can be bought already planed if you prefer.

Lay two pieces of birch flat on the workbench, 5½″ side facing up, with one strip of walnut, ½″ side up between the two birch pieces, just as they will appear on the tabletop. Be sure the contacting edges are flush and that the birch and walnut surfaces are level.

Using a rule or "T" square, draw a line across all three pieces (birch to walnut to birch), dividing the wood into two equal sections. This gives you the center location for the first dowel. Draw similar lines 2″ from each end and then space two more lines evenly between the already drawn center line and the outermost 2″ edge lines. There should be a total of seven lines, dividing the table into eight pieces.

Using a doweling jig or similar device, drill holes 1½″ deep into the sides of the birch and entirely through the walnut, using the drawn lines as guide marks.

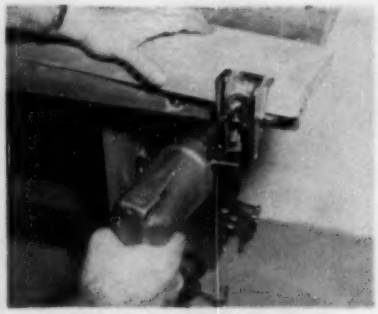
Cut seven dowels 3½″ long; 28 will be required for the entire table. When all seven holes have been drilled into

Pencilled lines are drawn across the birch and walnut, to be used as guide lines for doweling later on.

the birch and through the walnut, place the dowels into the openings and assemble that portion of the top by pushing the birch and walnut together. Lay another piece of walnut

How to Pick the Best Grinding Wheel

The July-August issue of Homecraft will contain a very practical, up-to-the-minute feature on choosing the right grinding wheel for the job. Owners of bench grinders will want to be sure to read this.



Doweling jig for drilling holes in the side of the birch piece. Dowels to be inserted and glued later.

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It's true! Whether you buy the great new Disston hack saw blades, Disston circular saws, or Disston metal-cutting band saws, you get master tools that give you smooth, fast cutting.

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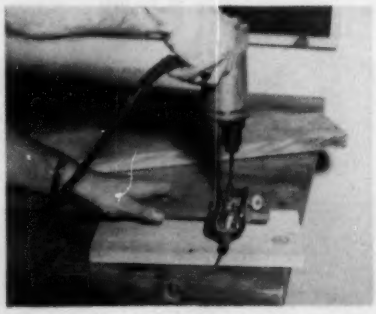
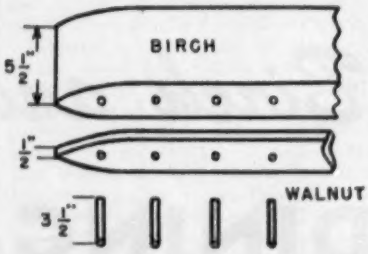


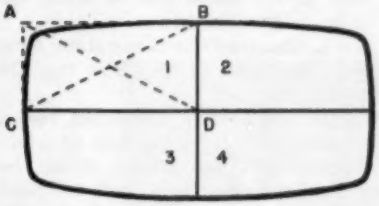
Drilling dowel holes into walnut, using doweling jig.

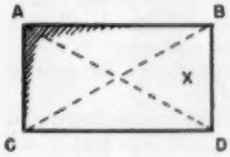


Insert dowels into holes drilled by dowel jig in alternate pieces of birch and walnut. Glue dowels and adjoining inside edges for final assembly.

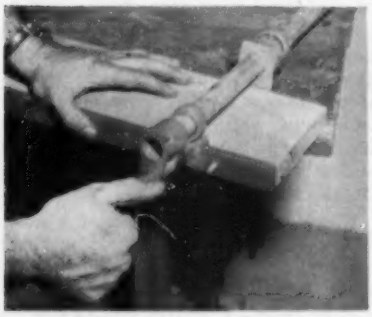
Brushing glue on the inside edge of birch piece.

Dowel being inserted 2" from edge of table. It goes entirely through the walnut and 1½" into the birch.





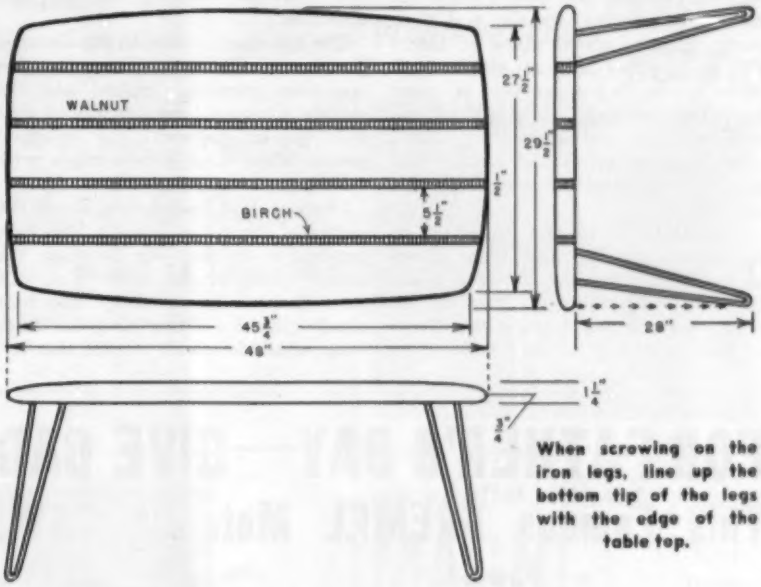
Points A, B, C, D on Pattern X correspond to identical points on Tabletop section 1 above. Cut away shaded area on pattern to get the bowed edge desired. Place pattern on corresponding points on Tabletop with identical lines covering each other to insure proportioned table. Draw pattern edges on Tabletop and cut away undesired wood edges.



Applying one of the clamps, attached to a 40" pipe, to keep the walnut and birch in place after application of glue.

next to the three pieces already assembled (but not yet glued), lining up the edges; and repeat the entire marking and doweling procedure as before. Continue doing so with alternate pieces of birch and walnut until all nine pieces (5 birch and 4 walnut) have been used.

After the entire top has been made to fit as snugly as possible, take the sections apart, being careful to keep them in identical order so that they will match the same doweling holes later. Use a large, flat, level surface for doing the final assembly on. Mix a portion of Weldwood glue (comes as a dry powder) and glue the inside edge of the first piece of birch, glue



When screwing on the iron legs, line up the bottom tip of the legs with the edge of the table top.

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all seven dowels and insert, push the walnut across the dowels, and then insert another glued piece of birch. All pieces that are to touch each other, contacting edges that is, must have their "joining" edges glued. Continue glueing and assembling alternate pieces of birch and walnut and their dowels until all have been assembled.

Push all the pieces together as tightly as possible and then clamp with a clamp fitted on 40" long pipes. Use four sets of clamps, two on the upper surface and two on the lower or bottom surface of the table. This will prevent warping in any one direction.

The top must remain in the clamped position for 48 hours. When the glue has been properly applied and the surface clamped, small beads of glue will appear between the clamped pieces. Wipe these excess beads with a cloth as soon as possible.

Draw a line lengthwise along the center of the table. Draw a line perpendicular to that one through the center width of the table. You will have divided the tabletop into four equal quarters. Draw diagonal lines from corner to corner of each quarter. Take a piece of cardboard as large as any one of the quarter sections and draw diagonal lines from corner to corner. On it sketch in the type of bowed edge desired on the table. Cut away the outside edges of the cardboard that represent the edges of the bow not desired. Now you have one quarter of the table pattern exactly as you want it. By making sure the pattern lines coincide perfectly with the lines drawn on the tabletop itself, you can flop the pattern on any one of the four quarters and get an identical shape for a well proportioned table. The three points on the cardboard are used as directional guides. After placing the pattern on the table, trace in the shape desired along the edges. (Drawing A).

A bandsaw was used to cut the bow, but a handsaw or rasp also may be used.

After the bowing is finished, round the edges with either a rasp or sandpaper, and taper gently. After the edges have been roughed in, sand them to a fine, smooth finish. Smooth the top of the table with sandpaper, removing any defects. Finish off with a very fine grade sandpaper to eliminate any previous marks. Be sure to sand with the grain.

Turn the tabletop upside down and screw on the wrought iron legs. Place each leg on the under side so that the outer tip of the leg touching the floor will be lined up perfectly with the edge of the table. This will mean that the part of the leg actually screwed into the top will be several inches in from the edge. (Drawing B). Attaching legs at this time will help prevent marring the surface while working on the final finish.

Wipe the tabletop thoroughly clean. Varnish the top with a normal brush coat of good spar varnish. Do this as smoothly as possible. Let dry for 24 hours. Rub down with rotten stone (powder) and cloth. If a more abrasive action is desired, use 0000 steel wool with rotten stone (dry). Rub until completely smooth. Repeat the entire varnishing and rubbing procedure twice more.

Finally, apply two coats of a good furniture paste wax and rub in. This can be done any time the surface may need brightening up.

Bill of Materials:

5 pieces of birch, 4 ft. by 5½" by 1⅛"
4 pieces of walnut, 4 ft. by ½" by 1¼"
4 wrought iron legs, 28" high
16 screws, ¾" wood round head variety
3 pieces of dowel, ¼" diameter and 3 ft. long
1 small box or ¼ lb. rotten stone
0000 type steel wool
sandpaper, both rough and fine
bar varnish, 1 pint to a quart of good quality
1 can white paste furniture wax
1 piece of cardboard, 24" by 15"
1 small can of Weldwood glue

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do it yourself but do it safely

(*Continued from page 272*)

TAKE A LOOK AT YOURSELF

1. The sport shirt with tail out is fine in the living room, but tuck it in when you go to the shop.
2. Put on a shop apron and snub it snugly to your front. Beware of floppy clothes that can catch in pulleys or saw teeth.
3. Roll your sleeves up high enough to lock the cuffs in securely.
4. Have a pair of good shoes at the door to your shop, and change from your bedroom slippers before you go in. The soles should be sound, to protect you from nails on the floor. I know a man who dropped a smooth plane on a toe which was clad in a bedroom slipper. There are three bones in a toe and he broke all three of them. (I know, because I'm the one).
5. Wear a pair of safety glasses. You need them so many times. Some men wear them at all times in the shop.
6. Female hobbyists should keep their hair covered snugly when working with machinery.
7. Gloves, rings, wrist watches, bracelets and neckties should be left elsewhere; they have no place in the workshop.

This safety block clamped to the fence is the most elementary type of guard and hold-down for simple shaper operation. A kick here will not pull you in. It also can be bushed out if the fence has to be offset for milling the entire edge. This safety measure takes practically no time to install.

SAFE PRACTICES FOR THE BANDSAW

1. Make all adjustments while the saw is at rest. Set the saw guide so that it is about 1/4" above the work.
2. People who might be watching the work should not be allowed to stand at the right of the saw. In case of a broken blade this is the

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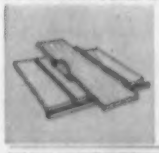

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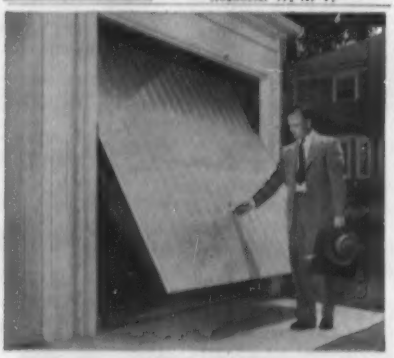

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only direction in which the blade can escape the guards covering the wheels.

3. Avoid backing out of a cut, as you may pull the blade off the wheels. Turn and saw out through the waste wood, or stop the machine.
4. Do not cut cylindrical stock, as it may roll as the saw bites into the wood.
5. Pieces to be cut should lie flat on the table.
6. A rhythmic click with impact on the wood may indicate a cracked blade. Cut the switch, and step back until the saw stops, then inspect for the crack.
7. If blade breaks, shut off power and stay away

The short piece is a trap on the jointer. This shows how the block is kicked out from under the two fingers, and how the fingers can drop into the knives. No guard is fast enough to save these fingers. Don't be trapped by this operation; use a hand plane, or design a special block which will hold the pieces to be cut.

until coasting wheels stop. Do not attempt to handle any part of the blade while the wheels still are in motion.

8. Do not operate with the arm or fingers across the line of the saw.
9. Use a narrow blade for a short radius and wider blades for heavier work.
10. If help is required to handle a long board, the help should be instructed to support the weight only. The operator does all pushing and guiding of the work. Never pull work through the saw.

SAFE PRACTICES FOR THE SHAPER

This concerns the small home workshop type of spindle shaper which employs cutters made of three knives as a unit. (These instructions will not be complete for the industrial machine which employs loose knives held in place between collars.)

Approach this machine with extreme caution, and only after a thorough study of its characteristics. Several principles should be memorized. These also apply to the shaper attachments for the drill press, router or hand drill held in a stand:

1. Pull the plug and set up the machine so that the unused portion of the knife will be below the table.
2. Where possible, mill the bottom of the stock, thus covering the knives completely.
3. Avoid loose sleeves that might get caught in the revolving spindle.
4. Set the fence and be sure it is locked safely.
5. Determine the direction of rotation by snapping the switch on and off and watching the knives come to rest. The cutting edge should be leading and the bevel trailing. Feed against the cutting edge.
   Think these two points out clearly, as an error here may have disastrous results.
6. Hold the work down and over against the fence with the hand flat on top out of range of the cutter.
7. Examine all wood to be run over the shaper—since knots, wanes, splits, winds and cross grain or curly wood add to the danger.
8. Use all guards and clamping devices provided with the machine or which may be purchased.
9. It may be necessary to build a jig for small pieces or narrow ends of boards. Do not attempt to run them with your fingers.
10. Where contour work is to be done, the set-up involves the use of the collar instead of the fence. This means the operator must drop in on the knives until the collar comes in contact with the work.
11. When dropping in, it is well to be in motion toward the direction of feed. While you are opposing the knives they are also opposing you, and the least backing at the start may allow the knives to walk on uncut wood, kicking the board from your hands.
12. In collar work, there must be some of the edge uncut for the collar to run on. If the moulding cut will cover the entire edge a pattern must be attached to the wood for the collar to run on.
13. Where the collar is used, do not start the cut on a corner. The knife may walk around the corner to the uncut wood and a vicious kick result.
14. Think out each shaper operation carefully. Try to figure the direction of possible kick, and so place your hands that they will be kicked away from the knife rather than into it.

SAFE PRACTICES FOR THE WOOD TURNING LATHE

1. Loose clothing, neckties, hair and sleeves are a hazard on the lathe.
2. Always wear a mask or goggles.
3. Examine all lumber intended for turning for knots, checks, shakes or other defects which might cause it to break in turning.
4. Give all glued work plenty of time to cure before spinning it on a lathe. Twenty-four to forty-eight hours is suggested.
5. Be sure the tail stock is locked before the power is turned on.
6. Revolve rough stock by hand to make sure it clears the tool rest. Put a little hard grease on the dead center.
7. Hold the tools firmly in both hands.
8. Run all jobs at lowest speed until they are reduced to cylindrical form and in balance.
9. The safest way to use the caliper is on a dead machine.

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10. Keep the tool rest as close to the work as possible, but do not attempt to adjust it while the machine is in motion.
11. Avoid high speed on both large diameter and real small diameter material. When you go over a speed of 1800 rpm you are entering a danger zone that should be avoided.
12. Be certain that faceplate work and chuck work are securely fastened before starting the machine. Avoid excessive speed.
13. Do not use the gouge on internal cuts; use the scraper.
14. Use only lathe tools for lathe work and keep them well sharpened.
15. When sanding or polishing on the lathe, remove the tool rest. A finger or hand caught between tool rest and work can be mangled.

SAFE PRACTICES FOR THE JOINTER

1. The short piece is the trap which is certain to cause an injury on the jointer. Never run a piece shorter than 10" over the jointer. Comes a time when you must use a hand tool, and this is it. As the short piece leaves the infeed table to the knives, they exert a downward pull on the stock. Since the piece is short, you do not have enough leverage to hold it down on the infeed table against the pull of the machine. The result is a slight tipping up of the board. The knives then grab the end grain and literally walk the board out of your hand and the fingers can drop into the machine.
2. Insist on a guard with this machine. If you have none, get one!
3. Depth of the cut should not be over 1/8" and should be set before machine is started.
4. Push sticks should be used when jointing narrow pieces or when flatting a board.
5. Thin strips and narrow strip of 1" or less should not be run on the jointer.
6. Never run the jointer with the outfeed table out of adjustment. This should be set to match the height of the knives exactly.
7. The question often is asked as to whether or not end grain can be jointed. In the interest of safety, the accepted procedure is given here: Do not attempt to joint end grain on any board less than 12" in width. Set for a light cut. Hold the board firmly on the infeed table and move into the knives a distance of 1" and back away. Turn the board around and go in with the other end all the way across. Notching the first end prevents splitting the edge as it crosses the knives.
8. Many small jointers do not provide for guarding the knives in back of the fence. Quite commonly the fence of the jointer is moved to the working side to get into sharper sections on the knives. As this is done, the knives become exposed behind the fence. It is suggested that some sort of cover be devised which will follow the fence as it is moved out.

SAFE PRACTICES FOR THE GRINDER

1. Use a face shield or goggles for all grinder work. Keep them clean and sterile. They should be shatter-proof.

2. Set tool rest close to stone so materials cannot get wedged between stone and rest.
3. Stand to one side when starting the machine. A faulty stone usually breaks on the start.
4. Grind on the face of the stone, not on side.
5. After grinding, wash hands thoroughly before touching face or eyes.
6. Beware of the coasting machine. Be sure it is dead and power off when setting up.
7. Keep fingers away from the stone. A finger caught between wheel and steady rest will be ground off.

SAFE PRACTICES FOR THE DRILL PRESS

1. Never attempt to use a regular auger bit on the drill press or in the hand drill. Auger bits for this machine have the lead screw cut smooth and the square shank cut off.
2. Clamp small pieces in a drill vise or clamp them to the table.
3. Keep the table clean with a brush.
4. Wear a shop cap or tie up the hair when working around whirling machinery. Rings, wrist watches and gloves should not be worn.
5. Check to see that the chuck key, drift, and all wrenches are removed before starting the machine.
6. Pull the power when setting up the machine.
7. Be certain your drills are ground in balance so that they do not tend to whip the work.
8. Beware of the coasting machine.
9. If you have a shaping and routing attachment for your drill press, study the safety rules for the shaper.
10. Center punch for drill point. Use only straight, sharp drills.
11. On deep cuts back out frequently to clean and cool the bit.
12. Drill easily without forcing the bit.

THE ELECTRIC HAND DRILL

The same rules hold as given for the drill press. Use extreme care in laying the tool down when it is coasting. It might catch rags, clothing or other things which may cause it to pull into the operator.

The attachments, as sanders and buffers, should be handled carefully as they exert considerable pull.

SAFE PRACTICES FOR THE CIRCULAR SAW

1. Whenever the saw blade is handled for any reason, pull the power. Make all adjustments while saw is dead. Be sure to lock both fence and saw in position.
2. Provide saw with an approved guard.
3. Never make a freehand cut on the circular saw. Always use the fence. To freehand is to invite a kick-back.
4. Raise saw only high enough to clear the work.
5. Use a push stick to move the wood between the saw and fence. Check to see that the push stick is handy before you start.
6. Keep hands and fingers out of the saw line.
7. Get in the habit of standing a little to one side of the saw line. This is an automatic way to avoid being struck by a kick-back
8. Boards should be flat and straight, with a jointed edge to run on the fence. Inspect for

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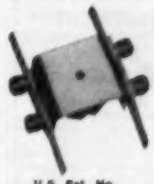

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loose knots or checks which might cause the board to break in two while being sawed.

9. Keep the saw table clean. Knock cuttings away with a stick; never use the fingers.
10. When ripping, never leave a board between the fence and the blade. Push it well beyond the saw with a push stick.
11. Do not try to rip or cut off cylindrical stock. Use a hand saw.
12. Do not run end grain against the rip fence. In other words, do not use the rip fence for a cutoff operation.
13. Use either the rip fence or cutoff fence, but do not try to use them both at the same time. A clearance block may be used when the rip fence is set to act as a gauge for cutting pieces of equal length.
14. Dropping wood onto the saw to cut an inside opening is bad practice.
15. When using a moulding head on the saw it is good advice to cut the moulding on a wide board and rip it off later. If small squares are used, devise a holdown block which can be clamped to the fence and which will hold the strip against the fence and against the table as it passes over the knives. Do not try to hold it in close with the fingers.
16. Ripping extremely short pieces should be avoided as they may turn due to resistance of the saw and pressure ahead. Turning may result in taking a finger in with it or kicking the board out.
17. When help is needed to handle a long board, instruct the helper that he is to support the weight only. All pushing must be done by the operator. Never pull work through the saw.

SAFE PRACTICES FOR THE POWER HAND SAW

1. Be sure the switch is off and that the saw is lying or held in safe position when the plug is inserted.
2. Pull the power when handling the blade.
3. Cutting short pieces is dangerous. The piece may be turned by the saw and the thumb pulled into the blade.
4. Holding a short board with the foot is equally dangerous.
5. Care should be taken to prevent the electric cord from getting into the blade.
6. The blade should be set quite heavily to prevent binding and to allow the saw to turn enough to follow the line in cutting.
7. In a diagonal cut the guard may catch. Do not try to release it with your fingers unless it has a handle for this purpose.
8. Do not stand directly in the saw line of this or any other saw. If the blade binds, it has a tendency to kick the saw back out of the cut. Legs have been cut severely, this way.

SAFE PRACTICES FOR THE RADIAL SAW

1. Stand slightly to one side and lean forward to operate the saw.
2. Push the saw well back against the stop before turning on the power.
3. The board must be firmly against the back fence.

(*Continued on page* 320)

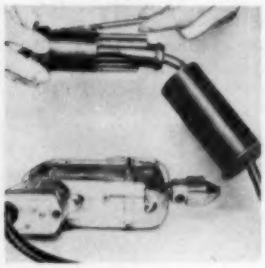
It's New on the Market

SLIP-ON ATTACHMENTS

The Tru-Guide marking and measuring aid and the Tru-Cut tape-tip make it possible to mark, with a steel rule, and cut large panels without a straight edge. Can be used on lumber, plywood, wallboard; also for measuring all dimensions of pipe. The Tru-Cut aluminum tape-tip has slot for holding marking pencil or knife. Fits any ¾" steel tape rule. Price of both, $1.00 from building supply and hardware dealers, or direct from manufacturer: Wallboard Tool Co., 1704 Seabright Ave., Long Beach 13, Calif.

HEAVY DUTY BELT AND DISC SANDER

This new Duro model combines heavy duty 10" disc and 6" belt sander on a 24" surface. Belt sander operated horizontally or vertically on work bench or floor stand. Auxiliary tilting table (tilts 45°) interchangeable for belt or disc. "Pre-loaded belt tensioning" lever allows fast changing of belts without re-tensioning and re-tracking. Standard equipment includes work table, mitre gauge, machine pulley, aluminum oxide belt and disc. Price $115.00. Duro Metal Prod. Co., 2651 N. Kildare, Chicago 39, Ill.

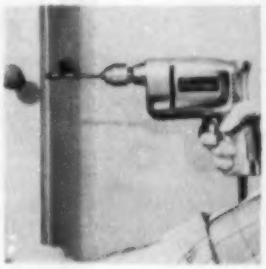


ELECTRIC DRILL BIT HOLDER

The Bitzgo drill bit holder prevents mislaid, lost and broken bits. All-rubber holder keeps bits with the drill; or can be kept on the bench or in tool box. Bits will not spill out or be damaged if holder is dropped when open, because bits are held tightly in flexible rubber pockets. Holds 13 sizes: 1/16" through ¼" by 64ths. Slips on or off drill cord in seconds; can be moved to any position on the average size cord. Price $1.98. Donart Co., 425 East Plymouth Circle, Minneapolis 16, Minn.

LOW-COST DRILL: JAM-PROOF CHUCK

A new kind of chuck (called "Wrench-lok") eliminates the problem of jamming. This is the major feature of Dormeyer's new Model 200 ¼" portable electric drill. Other features of Dormeyer's three ¼" drills include an extra-length corrugated surface handle; more driving torque; a switch which locks to "on" position, releases instantly. Drill illustrated, $21.95. Dormeyer Corp., Power Tool Div., Kingsbury & Huron St., Chicago 10, Ill.



. . . and a number of other interesting products worth mentioning have been announced recently, among them: DE WALT, INC., Lancaster, Pa.—new shaper guard which totally encloses the shaper cutter and motor spindle . . FORSBERG MFG. CO., 125 Seaview Ave., Bridgeport 5, Conn.—a 2" capacity power saw (Whiz Saw Model 2) which rips and cross-cuts . . ROBERTS MOTOR CO., 404 Union St., Bronson, Mich.—new ½ hp bench grinder in popular price bracket . . DRAKE ELECTRIC WORKS, INC., 3656 Lincoln Ave., Chicago 13, Ill.—soldering kit containing three interchangeable irons (150-watt with 1⅛" tip, 100-watt with ¾" tip, 60-watt with ¼" tip) and handle; safety stand; 2 tubes of acid and resin core solder. Price $15.95.

MIDCONTINENT ADHESIVE CO., Grove City, Ohio—Roltite Utility Adhesive for bonding (without clamps or presses) Reynolds Aluminum and a wide variety of other materials. Comes in 8 oz., pint, quart, gallon and 5-gallon cans . . WILSON IMPERIAL CO., 115 Chestnut St., Newark 5, N.J.—a new instruction manual showing best methods of refinishing furniture, woodwork, floors, interior trim, exteriors, etc.; price 25c . . WALPOLE CO., Dept. 173, 419 Boylston St., Boston 16, Mass.—unique beam compass rule with which it is possible to make big circles and large radius arcs up to 12' in diameter; price $1.98 . . FIDELITY TOOL SUPPLY, INC.,

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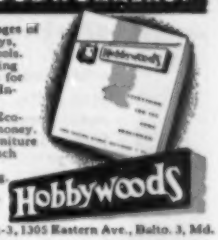

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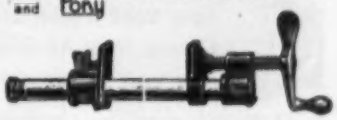

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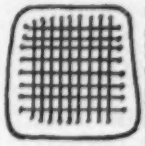

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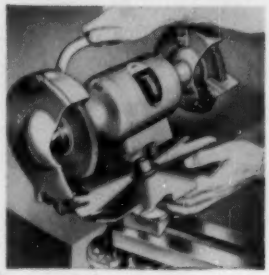
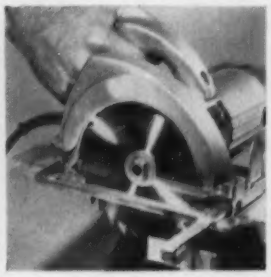


Model 3140 Foley Grinder provides a dependable unit for sharpening all types of circular saws—rip, crosscut or combination—5" to 44" diameter. Positive settings provide correct pitch as well as uniform tooth height, depth and bevel. Saw tilts to 45° both ways for bevel grinding. Pointer and graduated quadrant scales insure quick and accurate positioning. Complete unit, with ½ hp motor, is under $100. Write Dept. 4, Foley Mfg. Co., Minneapolis 18, Minn.



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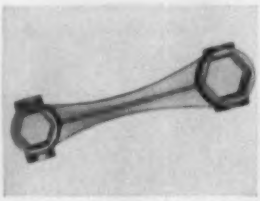

This Fixit wrench handles hex-head bolts and nuts ranging in size from No. 8 to ⅜". Manufacturer states it was designed to meet the need for a low-cost, wide-range wrench for workmen, hobbyists, and householders. Covers complete range of hexagon fasteners found on automobiles, boats, motorcycles, home appliances. Sells for about 69c and is available at all hardware departments. For further information write to: Euclid Mfg. Co., 1130 East 222nd St., Euclid 17, Ohio.

309 Vine St., Camden, N.J.—a new low-cost rotary shear (called Toolmaster), hand operated, which cuts steel as heavy as 16 gauge, and other metals.

FAIRCHILD INDUSTRIES, Burlington, Vermont—electric sander offering two sanding motions: 3/16" orbital motion for fast cutting, and a reciprocal motion for finished work . . CALHOUN DIST. CO., 9999 Broad St., Detroit 4, Mich.—6-volt Handy-Giant welder for welding, soldering, brazing; weighs 12 lbs.; price $49.50 . . BELSON MFG. CO., East River Road, North Aurora, Ill.—Quik-Bilt workbench kit, packaged with metal standards plus all screws, bolts, nuts; you furnish the lumber . . MALL TOOL CO., 7725 South Chicago Ave., Chicago 19, Ill.—offers new dial type carpenter's protractor as a bonus with every purchase of a Mall Model 72 electric saw; retails otherwise for $4.50 . . DIRZIUS MACHINE SHOP, 1423-25 So. 52nd Ave., Cicero 50, Ill.—Hi-Speed Drillmaster, a converter unit which fits chuck of any standard bench drill press and which has a speed ratio of four-to-one.

ULTRA CRAFT DESIGNS, Box 167, Grand Rapids 1, Mich.—built-in clock kit which furnishes electric clock mechanism, 4" center disc, hands, dots, markers or numerals (black, aluminum or brass); price $9.95 . . HILDEBRANDT & CO., 414 Southern Bldg., Washington 5, D.C.—clever softwood buffers with embedded magnets, for attaching to all kinds of iron or steel clamps, to protect wood being

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The Biddle Easy Shaper can be attached to any 1/4" electric drill. Includes sturdy handle with sealed ball-bearing guide, three heat-treated cutters: flute, single head, v; also adjustable guide and Allen set screw wrench. Additional cutters may be ordered. Cuts intricate forms, gets into tight corners and inside curves. Can be used on any kind of work from 1/4" to 2 1/2" thickness. Price $9.95. For free bulletin, write Biddle Mfg. Co., Racine, Wisc.

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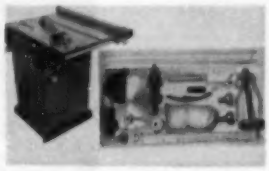

The Gil-Bilt kit combines machined steel and aluminum parts with a wood table, frame, and base which craftsman builds himself. Step-by-step plans, full scale patterns, photographs furnished. Features a 27" x 29" table, big controls, self-aligning rip fence. Blade cuts 0" to 3 1/4" deep, tilts 45°. Crosscuts, rips, bevels, miters, dadoes. Kit with 10" combination blade, $25.90; less blade $22.95. For 8-page catalog write Gilliom Power Tools, Lambert Field, St. Louis 2-, Missouri.

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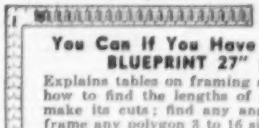

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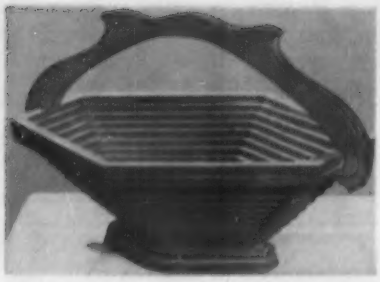

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LOOKS LIKE A FINE BOOK

do it yourself but do it safely

(*Continued from page 314*)

4. Do not crossarm the saw. Never hold an arm across the saw line and pull the saw toward the arm. Pull with left hand if necessary.
5. When operating with the dado head be cautious, as the saw tends to run out without your pulling it. You may have to hold back.
6. Do not reach in to pick up scraps. Knock them away with a board or wait until the blade stops.
7. When the saw is turned for a ripping operation, remember the universal rule for woodworking machinery. Feed the wood in the direction opposing the rotation of the blade. In other words, feed against the cutting edge.
8. Short pieces get the hand too close to the blade; and with little material against the fence, they may be turned by the pressure of the saw. Avoid cutting short pieces unless they are clamped to the table.

SAFE PRACTICES FOR THE SURFACE PLANER

The surfacer should be provided with a hood to cover the cutter head and deflect the shavings toward the outfeed side. If possible, a system of dust collection should be procured with this machine.

1. Be familiar with the stopping mechanism of the machine. Know the location and method of operating the feed release and brake if one is furnished with the tool.
2. Get in the habit of standing to one side of the infeed table, out of line with the work.
3. As the feed rolls take the work, you let go. Do not follow the work with the hands.
4. For maximum safety, the shortest board to be run should be about two inches longer than the distance between the centers of the infeed and outfeed rolls.
5. In feeding short pieces, be careful of fingers and thumb. The rolls sometime tip short boards up a little as they go under, and the fingers may be pinched between board and table.
6. If the board stops with the end on the infeed table, do not try to push it with your fingers; jar it with a longer plank or shut down and lower the table.
7. Examine wood for defects, such as spike knots which might cause ends or short pieces to break off under pressure of the feed rolls. These pieces can be thrown out violently by the cutter head.
8. Do not send cross grain through the planer. This machine is intended for planing with the grain.
9. If a short board turns as it goes through, it may ride the top of the table edge and wedge under the cutter head. Hit the feed release and stop it before this happens. Count the turns on the hand wheel as you lower the table to release the board. You then can reset the table to the proper dimension.

Next issue we will discuss safe practice for using a ladder. Man, is the ladder ever a booby trap for the uninformed!

REVOLUTIONARY NEW SELF-CONTAINED, COMPLETE SPRAY KIT MAKES PAINTING EASY!

Now Spray Anything In Minutes With Amazing New *Super Jet!*

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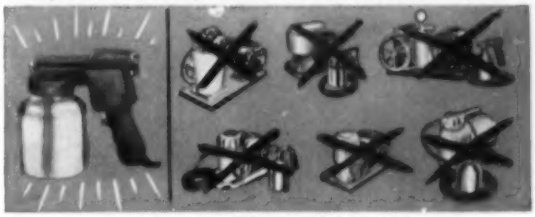
No Special Air Compressors or Extra Motors Needed!



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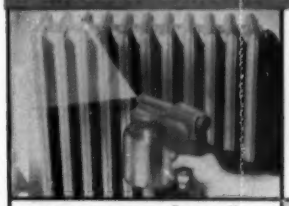
3 DIFFERENT WAYS TO SPRAY WITH SUPER JET!



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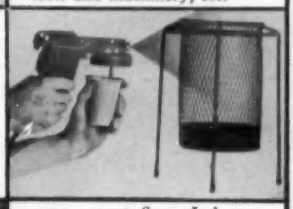

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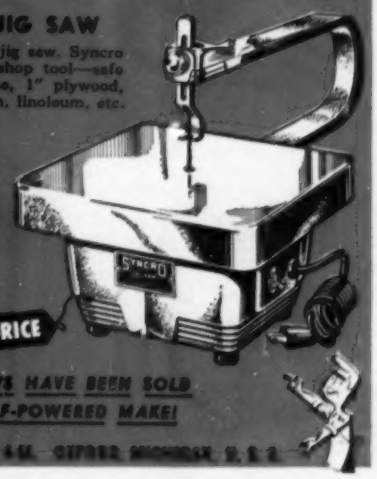

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